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South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter at the postoffice at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

SOME FACTORS DETERMINING THE RESULTS IN SURGERY.

To know how successful has been the outcome of surgical measures, we must examine the results. Was it better for the patient to undergo the operation? Has he been returned to society in better condition, or is he a dependent? If surgery has anything to offer mankind, it should be able to show results. It can; but there are certain factors most important in their influence on these results: the diagnosis, and the time of operation. Take a few examples.

Appendicitis: Though the typical case is not sufficient in diagnosis, a large number of the cases are a-typ-

ical and puzzle the wisest heads. One reason for this is the insufficient clinical examination: blood counts, often repeated; unrine analysis; careful investigation of chest and abdomen; the oft-neglected rectal examination. The total and differential leucocyte counts may often decide the diagnosis.

When the diagnosis is settled, what is to be done? Operation offers the best chance of recovery if done early. The statistics of many clinics show 100 per cent of recoveries if immediate interference is done. This percentage is lowered after the first twelve hours, and falls rapidly after twenty-four hours. This one factor, time of operation, has determined

the issue regardless of the efforts to prevent it, and has controlled results more than any other. Two patients left the hospital the same day. One was carried out—operation thirty hours after the physician had made the diagnosis, but it required all this time to secure the parents' consent. The other walked out—operation fifteen hours after onset of attack, and three hours after being seen by his physician. This was none too soon, for the appendix had all but ruptured, and cloudy fluid surrounded it. These are two fairly typical instances. Careful intelligent work was done in both; but the time of operation decided the results. The laity should know this; for we need their support.

Cancer: At first local, easily eradicated if superficial, less so if deep. Some clinics report 80 per cent of recoveries if operation is done when cancer is suspected; but 80 per cent of mortality if operation is refused until all signs are present. Here again, time of operation is the deciding factor in the case; for though the growth may be circumscribed, recurrence and metastases appear beyond the limits of removal; and the patient is doomed. With a mortality of 75,000 yearly from this one disease, is there to be no educational effort for the people? Do physicians urge examinations for obscure symptoms, and enforce the argument with proper instruction? If a patient suggests the possibility of cancer, don't make light of it until disproved. Then laugh—that it is not present.

Extra-uterine pregnancy, strangulated hernia, typhoid perforation, acute pancreatitis, are also among the 'acute' conditions. Others less urgent, the various hernias, lacerations from child-bearing, fibroids,

injuries, deformities, all are rendered more difficult in operation, and the convalescence is prolonged when surgical intervention is needlessly postponed.

One of the greatest surgeons of the last generation pronounced the verdict "Too late" on most surgical work. Is this to be said of us?

POISONOUS FLY DESTROYERS.

The December issue of the Journal of the Michigan State Medical Society calls attention editorially to the danger of using poisonous fly destroyers.

From July 1 to October 15, 1914, forty-five cases of poisoning of young children were reported in the press of a few States, and it is pointed out that the symptoms of arsenical poisoning and cholera infantum being very similar there are possibly many more cases of the kind. It might be well, in view of this danger, for physicians to eliminate the possibility of arsenical poisoning before diagnosing a case as cholera infantum. A few years ago there was considerable agitation against the use of phosphorus matches, partly because of some children being poisoned by eating or sucking the heads of the matches. There are doubtless many more cases of poisoning from the poisonous fly destroyers. Phosphorus matches have been abolished, so should poisonous fly destroyers.

It seems this danger has already been recognized by the authorities in far away South Africa, and the sale has been forbidden, except by licensed chemists, of certain arsenical fly destroyers, more particularly, the tin boxes which have a wick or wicks through which the poisoned water is drawn. The fact that sugar is added to draw the flies makes these boxes especially dangerous to young children; furthermore all these poisonous fly destroyers are usually placed on the window sill, and children, as well as flies, are attracted to the windows, and the poisons are thus within their reach.

Both the blotting paper impregnated with arsenic (which is put in an open saucer with water and sugar), or the tin boxes with wicks to draw the poisoned water to the surface are extensively used, and there is probably no poison so commonly and unnecessarily used where it is perforce within the reach of young children as these various arsenical fly destroyers. In country homes where it often takes some hours to get a physician, and even in our cities among the foreign born, where the parents are as is well known, slow to call the services of a physician for childish ailments, the danger is especially great. There are as effective and more sanitary ways of killing flies. Poisonous fly destroyers are an unnecessary evil and should be relegated to the past, like the phosphorus match.

PAYMENT OF DUES.

We are face to face with the necessity to pay our annual dues again and at the same time we face more than ordinary difficulty in the financial world. We can not afford though to economize in this particular direction for much of the real life of the practice of medicine today comes from the organized society and there is no better investment the doctor can make if he keeps in touch with all that is best in his profession. Let us not, therefore, put off this one particular duty any longer than is absolutely necessary.

GET READY NOW.

It is highly important that those who intend to read papers at the Greenwood meeting the third week in April should begin now to consider seriously their titles and subject matter. Three months is by no means too short a period to consider thoughtfully a scientific article.

Dr. S. C. Baker, of Sumter, Chairman of the Scientific Committee, will no doubt add very much to the interest of the meeting this year in his preparation of the program.

THE PELLAGRA SITUATION IN SOUTH CAROLINA.

No doubt every member of the South Carolina Medical Association received an appeal from the New York Post-graduate Medical School in behalf of a proposition to memorialize the Legislature to provide the funds to continue the great work of the Thompson-McFadden Pellagra Commission on some similar investigation. We can not afford to turn a deaf ear to this appeal for there is no more burning question in the South today than the Pellagra situation.

Let every member of the State Medical Association at the proper time urge his representative in the Legislature to lend his influence toward securing the necessary funds.

OUR INVITED GUESTS.

We are delighted to be able to announce the names thus early of our invited guests at the annual session this year. Our President, Dr. Edward F. Parker, of Charleston, has invited Dr. Wm. L. Rodman, of Philadelphia, President of the American Medical Association, to deliver the address in Surgery. Also he has in-

vited Dr. Wm. S. Thayer, Professor of Clinical Medicine of Johns Hopkins Medical School, to deliver the address in Medicine. These gentlemen have accepted the invitation.

Doctor Rodman will address the

Association and the public at an evening meeting on the subject of Cancer.

It goes without saying that whatever Doctor Thayer undertakes will be quite worthwhile.

PERSONALS AND NEWS ITEMS

Dr. Matilda A. Evans has announced the formal opening of her Hospital and Sanitarium at Columbia.

Dr. J. C. Brawley who has practised medicine in Greenville for the past eight years will move to Union at an early date.

Dr. W. T. Hunt, formerly of Townville and a member of the Anderson County Medical Society, died at the Anderson Hospital December 21st.

Dr. Julius H. Taylor, Columbia, announces to the profession that after January 1st, 1915, he will devote his entire time to General Surgery.

Dr. L. Rosa H. Gantt, of Spartanburg, has been appointed by the Council on Health and Public Instruction of the A. M. A., a member of the Committee on Womens' and Childrens' Welfare.

The Executive Committee of the Anderson Hospital has elected the following members on the staff for the next six months: Drs. J. C. Harris, J. O. Sanders, J. R. Young, B. A. Henry, and J. B. Townsend.

Dr. A. B. Patterson has resigned his position as Superintendent of the State Park Insane Hospital, to take effect January 1st. Doctor Patterson will retain his seat in the Senate, moving to Barnwell and resuming private practice.

The Governor has appointed Dr. R. S. Cathcart, of Charleston, to fill the unexpired term on the Board of Trustees, Dr. W. A. Tripp, resigned. Doctor Cathcart declined the honor, however, and Mr. H. A. Todd, of Charleston, was finally appointed.

The Magdalene Hospital, of Chester, announces the co-partnership for the practice of their profession with offices in the Pryor Building, to take effect January 1st, of the following physicians and surgeons: Drs. S. W. Pryor, R. H. McFadden, H. B. Maloney, and G. A. Hennies.

The Georgia Surgeons' Club will hold a clinical meeting in Atlanta February 25th and 26th, 1915, to which the organized members of the regular profession are invited and anyone desiring a copy of the program of clinics may secure same by applying to the Secretary, Dr. R. M. Harbin, Rome, Ga.

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ORIGINAL ARTICLES

A CASE OF CAESAREAN SECTION NOT HITHERTO REPORTED.

*By John Lunney, M. D., Darlington, S. C.

N SATURDAY evening, July 11, 1874, I was called in consultation by Dr. W. A. Player to see an obstinate labor case. The patient was a colored woman, named Rose Richardson, aet. 35, married, primipara. Dr. B. C. Norment was first called to see the case and finding it very difficult called Doctor Player to his assistance, and later Drs. J. A. Boyd and T. A. Dargan. I was called in late on Saturday evening and found Doctor Dargan performing the operation of craniotcmy. This was the last of a series of futile efforts at delivery. I at once suggusted the operation of Caesarean Section as the only way then remaining to effect delivery, to which all of the physicians there readily assented. It was then nearly dark, and as there were no suitable lights on the premises, the operation had to be deferred till the following day (Sunday, July 12, 1874), when I went prepared to perform it, which I did, assisted by the physicians named above.

Operation.—Having unanimously decided to remove the dead foetus by Caesarean Section or Lapara-hyster-otomy, the operation was performed in the following manner:

The patient was placed upon a table, the abdomen and adjacent parts thoroughly cleansed with soap and warm water, and a 5 per cent so-

*Read before the South Carolina Medical Association, Florence, S. C., April 16, 1914.

lution of carbolic acid and glycerine, and every precaution to prevent sepsis was rigidly observed, as possible, under the circumstances. form was then administered and an incision was made along the linea alba vet median line, commencing a little above the umbilicus and extending to near the symphisis pubis. A small opening was then made into the peritoneum, a grooved director introduced, and the abdomen, to the extent of six inches in length, opened up by a probe-pointed bistoury, thus bringing into view a greatly distended bladder, which, the physicians, after repated efforts, had been unable to evacuate for the two days I then punctured the previous. bladder, introduced a catheter and drew off about two quarts of fetid urine. Then the uterus was opened in situ in a similar manner to the abdomen, and the dead foetus and placenta extracted. There was little or no hemorrhage, the patient being in an almost moribund condition. The uterus and abdominal cavity were then thoroughly irrigated with warm water, and stimulants administered, and the incision in the uterus and abdomen accurately approximated with interrupted silk sutures. strips of adhesive plaster were then applied between the abdominal sutures, a pad saturated with a 5 per cent solution of carbolic acid, and bandages firmly applied over all, and the patient given a heart stimulant and put to bed. The patient, at this time, was greatly exhausted and never rallied, dying in thirty-six hours after the operation. The result in this case emphasizes the importance of an early operation, before the patient becomes exhausted by too long delay. I am fully satisfied in my own mind that if I could have got hold of this case in time that I could have saved both mother and child. At the time of the operation this woman had been in labor seven days, but the long-continued futile efforts at delivery per vias naturales, were responsible for the disastrous results.

In this case the anter-posterior diameter of the outlet of the parturient canal was two inches and the transverse about two and lone-half inches.

Up to this time (1874) there had been but very few successful Caesarean operations performed, in Europe or this country. The history of the Caesarean operation was a long one, with failures and very few successes.

Dr. Robert P. Harris in his work on Obstetrics says:

"We do not know, with certainty, when Caesarean Section was first resorted to. It was practiced among uncivilized nations, notably Uganda, in Central Africa. This fact was brought to light by Robert W. Felkin, F. R. S. E., of Scotland, who witnessed the performance of a gastrohysterotomy, in 1879, by a native operator, upon a young woman, which resulted favorably to her and her child. How old this operation is in Africa it is impossible to determine. It is remarkable that the African barbarian should be so far in advance of the Chinese and Japanese in operative obstetrics. It was practiced by the Greeks after the death of the mother, and Pliny mentions that Scipio Africanus and Mantius were born in this way. children thus born were dedicated to Apollo, whence arose the practice of things sacred to that Diety, being taken under the special protection of the family of the Caesars. Many celebrities have been supposed to owe their lives to the operation; among the rest, Aesculapius, Julius Caesar, and Edward VI. The tradition in regard to the two latter is evidently without foundation in fact. There is no doubt, that the operation was constantly practiced on women who had died at an advanced period of pregnancy, and indeed, it has at various times been enforced by law.

Thus among the Romans it was decreed by Numa Pompilius that the pregnant woman should not be buried until the foetus had been removed by abdominal section. Italian laws also made it necessary. and the operation has always received the strong support of the Roman Catholic Church. So lately as the middle of the eighteenth century the King of Sicily sentenced to death a physician who had neglected to practice it. The first authentic case on which the operation was performed on a living woman occurred in 1491. It was afterwards practiced by Nufer, in 1500; and in 1581, Rousset published a work on the subject in which a number of successful cases were related. In English works of that time it is not alluded to, although it was undoubtedly performed on the Continent, and to such an extent that its abuse became almost proverbial. We have evidence in Shakespeare; however, that the operation was familiarly known in England, since he tells us that "Macduff was from his mother's womb untimely ripped."

Pare, and others, amongst the writers of the period, were noted for their hostility to the operation, while others equally strongly upheld it. In England the operation has been

looked upon as almost necessarily fatal to the mother, and it has, therefore, been delayed until the patient has arrived at the utmost stage of exhaustion. For example, in looking over the records of British cases, it is no uncommon thing to find that Caesarean Section was resorted to two, or three, or even six days after labor had begun, and when the patient was almost moribund."

Prof. Wm. S. Playfair, in his work on obstetrics, appears to think that Shakespeare's "untimely rip" was indicative of a great age for the Caesarean operation in the British Isles. After consulting the historic source from which Shakespeare drew his information-viz: The Chronicles of Englande, Scotlande, and Irelande, by Raphal Holinshed, London, 1577, in which we find the following: "I am he that the wizzards have told thee of who was never born of my mother, but was ripped out." Many a Caesarean-delivered boy has been named Caesar or Macduff without due investigation into the claims of either to have been similarly liberated from the uterine cavity. Of the eleven cattle-born cases, three belong to the credit of the United States, and one each to Mexico, Scotland, India, Holland, Germany, Spain, France and Italy.

In Great Britain the mortality up to this time (1888), owing to fear of and opposition to the operation, was very great, being about 75 per cent, while in the United States it was only about 25 per cent."

"The improved Caesarean method of Sanger has worked a revolution in opinion as to the dangers of laparohysterotomic delivery, is being placed more and more on the defensive. By prompt action, the use of antiseptics, and delivery by the improved abdom-

inal method, Germany has largely reduced the mortality of the Caesarean cases in her maternities; and other countries have profited more or less according to the closeness of their imitation and faithfulness in carrying out the instructions she has given."

The French were not any more successful than their British contemporaries in laparo-hysterotomy, each losing about 75 to 80 per cent of their cases, while in the United States the mortality has been reduced to 25 per cent, and now, at this time, to much lower figures—to almost nothing.

The Porro-Caesarean Section is a supra vaginal amputation of the uterus. At present it is performed almost exclusively in Italy. This operation is not in accord with the advanced principles of modern surgery and hence has been discarded in this country.

Vaginal Caesarean Section is still in the experimental stage. It consists, says Edgar, in "a deep incision of the anterior cervical wall extending beyond the internal os into the lower uterine segment, and the delivery of the foetus through this opening by the forceps or version."

Caesarean Section formerly considered "the most dangerous operation in surgery" is now attended with most satisfactory results. When timely attention is given to the operation the mortality is almost *nil*.

DISCUSSION.

Dr. C. W. Kollock, Charleston, S. C .:

I wish to congratulate Doctor Lunney upon his operation for ovariotomy, which was done at a time when such operations were unusual, at least away from medical centers, and the methods of sterilization and technique were more crude than now.

SUCCESSFUL TREATMENT OF A CASE OF TETANUS.

*By Carl B. Epps, M. D., Sumter, S. C.

AVING recently had a happy result in the treatment of a well developed case of traumatic tetanus, I thought that a report might be of some interest.

Hippocrates said, "The spasm supervening on a wound is fatal. Such persons as are seized with tetanus die within four days, or if they pass these they recover." The lowest mortality that I have seen given is 80 per cent., while a report made by Stanton on 422 cases gives the deathrate as 98 per cent.

While not seen very often in private practice, a disease with so formidable a mortality is of vital interest.

On the morning of April 15, 1914, I received a call to attend an eightvear old colored boy, H. B., living about eight miles in the country. Patient was extremely ill, very nervous, crying out with pain during frequent convulsions, which appeared upon the slightest disturbance. Could open jaws about one-third of an inch, swallowed with difficulty, head drawn far back and during convulsions body practically in opistho-The muscles of the jaws, neck, back, chest, abdomen and legs all showed rigidity, those of the arms showing least involvement, although arm movements were by no means free. The recti muscles of the abdomen were especially tense. perature normal, pulse rapid. els had not acted in three days although castor oil had been given On right leg, over the fibula and about three inches above external malleolus, there was a deep, gaping wound which had been caused by striking the leg against a nail about two weeks previously. The wound was wrapped with greasy cloths and showed but little tendency to heal. there being a constant and liberal flow of pus. The patient's chest and back had been blistered by the free application of a strong liniment. Patient had received medical attention a day or two previously but evidently the disease had not been recognized. According to the father the wound had never bled but simply "oozed a little yellow grease," as he expressed it.

I told the father that his son had lock-jaw and advised his immediate removal to Sumter. That afternoon the patient was removed to his grandfather's home in the city. three p. m. I gave him an injection of 1,500 units of tetanus antitoxin, started him on about six grains each of sodium and potassium bromide every five hours, and dressed the wound with thymol iodide after cleansing well with hydrogen perox-About eight p. m., I gave a ide. second injection of 1,500 units of antitoxin, and, as the calomel and podophyllin given when I first saw the patient had not acted, I ordered a dose of castor oil. I left instructions to keep the patient as quiet as possible.

On the morning of the second day patient said he was feeling better. Convulsion and pain still well marked and muscles rigid. Repeated same dose of antitoxin, and gave one drop of croton oil as the castor oil had not been effective. That afternoon I repeated the antitoxin and found that the croton oil had been quite effective.

On the third day patient continued to improve, convulsions not so

^{*}Read before the Sumter County Medical Society, 1914.

marked, rested better during the Dr. C. J. Lemmon saw panight. tient and agreed with my diagnosis. That afternoon patient was feeling much better although his temperature was 103.5. He had been living on practically nothing except milk and crackers, but now his appetite began to improve and he ate softboiled eggs. Twice on this day and twice on each day through the sixth day, he was given the same dose of antitoxin, excepting two dose's, when through an oversight he was given 750 units.

On morning of fourth day he showed temperature of 99.2, respirations about normal, as they had been practically all along, and pulse 110. Evening temperature 100, pulse about same as in morning. Feeling better. Gave castor oil with good results.

Fifth day, morning temperature normal, afternoon 100.2. Enjoys oat meal and milk. Still has convulsions, if limbs are moved, or if startled by a sudden noise. Gave castor oil again.

The sixth day showed almost a normal temperature. The wound, which had been cauterized on the second day and once later with about a 20 per cent. solution of silver nitrate, and dressed once daily as it had been on the first day, was healing nicely. Temperature almost normal.

On the seventh day only one injection was given. Patient still improving.

On eighth day patient had very few convulsions, temperature remaining about 99.

On ninth day temperature same, appetite good, bowels regular.

On tenth day the last dose of antitoxin was given. Could open mouth much wider, abdomen not so

tense, and had no well marked convulsions.

On the eleventh day he had no convulsions and the wound was nearly healed. Patient sitting up.

On twelfth day temperature was normal.

Patient was dismissed on the thirteenth day. Was able to walk with slight assistance, open mouth fully, and the wound was practically completely healed. He had been given 16 injections, amounting to 22,500 antitoxin units, costing about \$35.00.

MEMBRANOUS LESIONS OF THE THROAT.

*By Edward F. Parker, M. D., Charleston, S. C.

TN considering Membranous lesions of the throat, we may include the mouth, fauces, tonsils, soft palate, and pharynx, as all of these parts are easily visible with the mouth The diagnosis of such leopened. sions is somewhat different in the case of adults and children. All ulcerative conditions produce exudative membranous lesions, and these may be classified as simple, malignant, tubercular, tonsillar, diptheritic, non-diphtheritic, or syphilitic. We have only to keep this in mind and there should be little difficulty in diagnosing a Membranous condition in the throat (except only as to the specific organism) in certain cases, as more or less serious with a clearly defined efficient treatment or as not serious with a more or less clearly defined inefficient treatment.

Simple ulcerations are very uncommon, they will get well spontaneously and are due to some gastro-intestinal

^{*}Read before the South Carolina Medical Association, Florence, S. C., April 15, 1914.

disturbance of temporary duration as a rule. They are more common on the tongue and gums but are sometimes seen on the soft palate and fauces—and are analagous to what we call phlyctenular ulcerations of the ocular conjunctiva. Malignant ulcerations occur in adults generally after the age of forty-five and need not be considered in children.

Tubercular ulcerations of the oropharynx are rare, especially so in children. Ulcerative and membranous lesions are extremely common in adults as secondary manifestations of syphilis and especially must be kept constantly in mind.

Diphtheritic membranes are common in children, rare in adults, and have to be differentiated from the exudative membranes of acute tonsillitis and the pseudo-diphtheritic membranes due to several less viru-The membrane lent organisms. formed by a tonsillar exudate is confined to the tonsil, while the membrane of diphtheria nearly always invades the soft palate and uvula as well as the tonsillar area. The pseudo-diphtheritic lesions can only be distinguished positively from the diphtheritic by bacteriological examination, and in such cases the injection of antitoxin is indicated at once until the symptoms and microscopic reports determine the nature of the disease. Clinical symptoms should however influence us largely in the diagnosis if a specific remedy is possible.

The general symptoms of all these membranous conditions are very much alike; pain, adenitis, malaise, rise of temperature, etc., but the local appearance in most cases with other contributory conditions make a positive diagnosis possible tentatively at least.

The treatment of the simple, ma-

lignant, tubercular, syphilitic, diphtheritic, tonsillar and pseudo-diphtheritic membranous lesions is a familiar story. The chief aim of the physician should be to make a prompt diagnosis and this can in the great majority of cases be made on the local clinical symptoms alone. Laboratory findings should be confirmatory but valuable time is often lost if we wait for microscopic reports before making diagnosis.

Several cases of late have called my attention to the Micrococcus tetragenus and certain so-called yeast organisms similar to the Leptothrix Buccalis as causes of membranous lesions in the oro-pharynx. We are all familiar with thrush in children and similar organisms in adults under certain favorable, local and systemic conditions, it may be supposed, colonize and form membranes.

The Leptothrix Buccalis produces characteristic fungus growths emerging from the crypts of the tonsils, pharynx, tongue and mouth. appearance can hardly be called a membrane unless the seaweed or moss like projections grow very thickly and closely. The Micrococcus Tetragenus is frequently found in connection with abscesses about the nose, mouth and neck, and commonly found in the saliva of healthy individuals and of the new-born in the nasal secretions, and in the expectorations of tuberculous subjects, in some cases of bronchial infection, and in pleuritic and pericardial exudates.

Meningitis and Septicemia.—The Micrococcus Tetragenus, sometimes found in healthy throats, can, in certain cases, acquire virulence and produce Angina.

The Micrococcus Tetragenus may also be found associated with other

organisms; in some cases it is virulent and may be supposed to contribute to the production of the Angina, and finally, in still other cases, it is not virulent and must be regarded as an inoffensive saprophyte. Under the term tetragenic Angina it would include only such cases, as show experimentally a definite virulence of the organism and in which the predominatory organism is the Micrococcus Tetragenus.

The organisms are fungi and belong most probably to the Oidia—similar to the Oidium albicans—the cause of thrush. They are situated midway between the moulds and the yeasts. The Moulds show practically all threads—very few cells (spores). The Oidia show mostly cells with some threads, the Yeasts show all cells. The yeast organisms produce a membrane quite similar to the diphtheritic membrane, but it is more superficial and not so apt to be exclusively confined to definite areas. choosing apparently the mucous membrane of the cheeks and gums. The Tetragenus organism causes membranous lesions of small but scattered indifferently over the pharynx, epiglottis and fauces.

The cure of lesions produced by the Leptothrix, the Tetragenus, and so-called Yeast organisms is difficult—curetting and cauterization being followed by unsatisfactory results. The lesions often disappear in time owing probably to a discontinuance of favorable local and systemic conditions which we do not understand.

It is in the diagnosis and prognosis chiefly that a knowledge of the various causes and local symptoms of these various membranous lesions of the oro-pharynx is extremely valuable, the treatment as in many other ailments being of secondary importance.

DISCUSSION.

Doctor Kollock:

Mr. President, I believe as we become more and more scientific, as we might say, that we have a greater knowledge of the causes, and, to a certain extent, overlook the general appearances of disease. I do not believe the diagnosis of to-day is as good a sight diagnostician as was the man of 30 or 40 years ago. They depended more upon the general appearances and the symptoms of these various troubles, and J think their diagnosis would be more accurate than a similar diagnosis of the present. It is a pity that we should get in this position because it is impossible to have at all times the aid of the microscope and bacteriologist.

One membrane that might cause uneasiness, both to the surgeon and patient is that caused by lacunar tonsillitis which often extends well over the tonsil, halfarch, and perhaps the uvula. The throat is quite painful and there is freequently a considerable depression. A careful examition of the tonsil will often help us to make the diagnosis as it is usually found full of crypts and crevices into which the membrane dips deeply.

However, I would not have it thought that I believe in omitting any method that will help to make the diagnosis accurate and perhaps the sight diagnosis may account for some wonderful cures that have been reported of what are frequently fatal diseases.

Doctor Boyd:

In the discussion, Dr. Parker has brought out a point of marked acute cases of tonsillitis that sturck me very forcibly. This past season I have had occasion to see in my practice, as well as in the practice of others in Columbia, from a public health standpoint, a large number of cases where the attending physician was almost positive that he had a diphtheria—a marked membrane, and constitutional symptoms, that would be diphtheria. Repeated inunctions of diphtheria antitoxin had, however, absolutely no effect upon the membrane or constitutional symptoms, and repeated examinations failed to disclose the presence of the diphtheria germ. question that I have considered and thought of a great deal in those cases is the apparent contagiousness of some of these cases.

I have seen in a family where a child has developed acute tonsillitis with marked membrane and constitutional disturbances, a certain disappearance of the symptoms, and the other members of the family developing the same conditions. In a large number of these cases we have obtained cultures and found the streptococcus and not the diphtheritic germ. The question is whether or not these cases are contained from a public standpoint; whether children with a condition of that kind, when there is a definite history of other children developing it, whether those children from that family should be taken away from school until all element of danger had disappeared to the family. That is a question from a public health standpoint that I have considered and am at present at sea on, because I do not wish to do any injustice to the children, and yet I have seen so many cease with the various men in Columbia, that I am uncertain what steps to

Another case that I had the misfortune to help care for was ulceration of the throat from typhoid. These ulcerations extended down the larynx to the hard pal-I had Dr. Ward and Dr. Faison, and it was with a great amount of work that he was able to relieve the laryngeal symptoms of the patient. The patient lost practically all of his teeth from the upper jaw, a large portion of the roof of the mouth, and even now is in practically no condition to carry on his work. As to whether that was due to a definite typhoid bacillus or a mixed infection, neither Dr. Ward nor I have been able to determine.

Doctor Brailsford:

Mr. President, it is not exactly in line with Dr. Parker's paper, but I would like to ask Dr. Boyd, as a public health officer, if he has ever taken advantage of the antagonistic relationship between the diphtheria bacilli and the staphylococcus aureus and by swabbing the throat of convalescing patients with cultures of the latter organism prevented patients becoming diphtheria carriers.

Doctor Boyd:

Mr. President, that question was discussed largely in Washington, at a meeting of the International Congress of Hy-

giene, particularly by Dr. Mazyck Ravenel, and I think it was the concensus of opinion there that it was indicated particularly in these cases where it seemed almost impossible to free the throat of the diphtheria germ; but it is not often that you will find cases of diphtheria that will retain the cause of the disease any great length of time if sufficient doses of antitoxin have been given at the beginning of the disease and the throat being cared for by using some minor antiseptic wash or swabbing. I have not used the staphylococcus vaccine as suggested.

I know Dr. Ravenel and others have suggested its use in cases of carriers, and where they are unable to rid the case of the germ.

Doctor Parker:

The case that suggested the paper to me was a gentlman who had been suffering for a month or two with obscure patches over the fauces and pharynx, extending down to and involving the epiglottis. nosis in such cases depends upon the age of the patient and the environment, to some extent. We all know tubercular lesions are extremely rare. We know certain lesions are very uncommon in children or adults and we know syphilitic lesions yield very promptly to treatment, as a rule; and I must say when I hear men speaking of the difficulty in the diagnosis of these oro-pharyngeal lesions I feel that they never present such great difficulties if we keep certain basic principles in mind. A year or so ago I saw a case, in consultation with two doctors. When the examination was made they told me there were no diphtheria bacilli. The child was four or five years old, there was a dense membrane in the throat, which they said was possibly diphtheritic. We found, on looking at it, that the soft palate, with its arches and uvula was covered with a dense membrane. It was evident at once that the case was either diphtheria or that it was simple and the chance for the child's life was to have given it the antitoxin at once. The child died in 12 hours.

I think it is most important for us to depend largely upon the clinical symptoms which we see with our eyes, and in the majority of cases we ought to be able to diagnose the nature of membrane lesions satisfactorily.

THE EVILS OF THE EQUIVALENT CERTIFICATE AS AN ENTRANCE REQUIREMENT TO MEDICAL COLLEGES.

*By A. M. Brailsford, M. D., Mullins, S. C.

FOUR-YEAR High School Course or its equivalent, is the minimum educational preparation which is accepted from a prospective medical student in any State in the Union.

Apparently, this educational requirement is sufficiently safe-guarded and broad and substantial enough to meet the demands for previous knowledge and mental training required by the study of medicine. But there is much room for evasion of this standard, both by medical colleges as well as by individual stu-I know that the Medical dents. College of South Carolina, and, I believe, all other State institutions and endowed colleges are above suspicion, but that evasions are practiced by some colleges, is strikingly evidenced in the recent exposure of a medical college in Chicago, and that students present fraudulent credentials under the guise of the so-called "equivalent," is done in every State where the above standard obtains. The colleges accept them in good faith—likewise the State Boards, but the fraud is painfully evident to the examiners when they endeavor to pick grains of truth from bushels of chaff in the shape of disorderly English violating every rule of rhetoric and syntax and with errors in orthography only surpassed by those in chirography.

Under the present order of affairs, the "Credential Mills" flourish. One was unearthed out West a few weeks

*Read before the South Carolina Medical Association, Florence, S. C., April 16, 1914. ago during an investigation of irregularities attending the admission of medical students to medical colleges. It was proven that by the payment of twenty-five dollars, a certificate could be secured which was supposed to be based on a legitimate examination covering all of the branches of a four-year high school course.

Such fraudulent methods not only affect medical conditions in the States in which they are practiced, but are far-raching in their influence, for many of these men go to distant States to practice and then it becomes impossible for the most conscientious inspectors of preliminary credentials to detect them. This particular "mill" had been doing a large business, and was open and bold in its operations, but was finally run to earth by effective routine procedure.

The most difficult "mills" to deal with are the ones established at practically every county seat in the office of the superintendent of education, where, without, perhaps, the slightest idea that a dishonest act is being committed, a so-called "equivalent" certificate is issued to a friend, or a member of an influential family, or simply through gross ignorance with a reckless disregard for future consequences.

Not only are these efforts to nullify the Medical Practice Act, or the rules established by State Boards, dishonest, but they work a serious injury to the medical student who should lay a proper foundation for the complicated and difficult course in medicine. By the time he realizes his deficiencies it is too late for him to turn back and make up his short comings.

Such evasions and make-shifts follow the law of retribution, and the deluded and misguided student is eventually the sufferer. Although, he may be endowed with a bright mind, and, having applied himself during his medical course, is proficient in class room and quiz, vet, at examination he finds he has not sufficient language at his command wherewith to clothe his thoughts or to give expression to his knowledge. Should he be fortunate enough to blunder through his finals and the grilling of the State Board, he will continue throughout his career, shuffling and stumbling, terribly handicapped by "mental ataxia" due to an inadequate preliminary education, and the medical profession is burdened with another half trained member and the public endangered through a physician not properly prepared to care for human life.

Fortunately for the public as well as for the profession, we are witnessing the passing of the equivalent certificate, and, in this day, a knowledge of the three R's is not considered sufficient for the medical student. In recognition of this fact, efforts are being made by the proper authorities in nearly every State to raise the standard of entrance requirements for medical colleges and to demand one or two years of college work in addition to a four-year high school course.

The last report of the Council on Medical Education shows that of the one hundred and six medical colleges in the United States, thirty-five are now requiring two or more years of collegiate work. forty-two have adopted one or more years, and the remainder hold to the high school certificate or the equivalent. Seventyseven out of one hundred and six represent a large percentage demanding a higher entrance requirement. Of the State Boards of Medical Examiners, seven have adopted as the minimum standard, two years of college work, and sixteen require one or more years of college training. These statistics demonstrate that three-fourths of the medical colleges and about one-half of the State Boards have already adopted a higher minimum standard of preliminary education.

It has been suggested that the work of evaluation of credentials should be done by an agency entirely independent of all schools, such as a State or National bureau taking care of all the professions, the head of which should receive an adequate salary, and that such a bureau be conducted on a plane so high that its certification would be a recognized standard anywhere.

But the administration of admission to medical colleges can better be handled by men actively engaged as instructors in medical colleges and members of State Medical Boards. They are in close touch with the situation, and know what is best for the profession at large. They are slowly and carefully working out the problem through the Association of American Medical Colleges and the Federation of State Medical Boards.

Co-operation between these two bodies is necessary for a satisfactory solution of the subject. Much has already been accomplished and the outlook is very promising for the adoption of a uniform standard of pre-medical education that will eliminate all possibilities of fraudulent credentials and obviate all friction between Medical Colleges and State Boards of Examiners.

DISCUSSION.

Doctor Hayne:

Mr. President, I cannot help adding a few words to what Doctor Brailsford has said as to the necessity for preliminary education, before one takes up the study of medicine. It is certainly a most necessary training. A person must be able to understand to a certain extent, Latin, and Greek, possibly; certainly Latin, or else a tremendous burden is added to the medical student's life in memorizing the seemingly meaningless names of muscles. If he has only a slight knowledge of Latin, such as is conferred in the high schools he is able, simply by the names, to ascertain the origin and insertion of certain muscles, which otherwise convey no meaning to him whatsoever. I know that this preliminary training has been required lately. It wasn't so in my day (in the prehistoric past). I went to the medical college and found there a great many students who were very much puzzled by some of these very long names for infinitisemal muscles, and if they had had a slight knowledge of Latin they would have been able to locate, at least to a certain extent, where those muscles should be.

So far as the giving of certificates we know how lax South Carolina is (or some of the citizens of South Carolina are), in signing certificates, and also signing petitions of all varieties, and I do think that the hands of the State Board of Medical Examiners should be upheld in this trend or desire to make this preliminary education a matter of fact and not simply one that is on paper. It is true that there is, or there seems to be a gap between the tenth grade of the schools and the freshman year of the colleges that is not supplied. They should have the first year at college, if the idea of a preliminary education is carried out, even to the extent that we propose, in South Carolina. I have no doubt that it will come that a man will not enter the study of medicine until he has obtained a graduate degree-either a Bachelor of Science or the A. B. degree. Of course a great many colleges require this already but not all. I think it would be unfair to require it of all medical students, but still the general education as now required by a majority of the colleges is entirely inadequate.

Dr. Chas. W. Stiles, U. S. P. H. S.:

Mr. President, I suppose there are not six physicians in the country who have to use so much Latin in their work as I do. In Zoology our entire nomenclature is Latin, and many of the books that we have to use in our daily work are written in Latin. Now I want to say that the seven

years I put into the study of Latin in colleges had done me very little good in my medical and scientific studies, because Latin, in the public schools, is taught as a dead language. Not because the Latin has not been valuable to me per se, but I mean the training that I got in Latin in our public schools has done me very little good, as a scientific man. My seven years of Latin in schools and colleges were almost thrown away, so far as my scientific studies are concerned.

There is something radically wrong with the way Latin is taught in our schools and colleges. After I began to study science I had to take up Latin again and study it as a live language. Please do not misinterpret anything that I have said as being in opposition to what my friend has said: I simply want to put the premises further back than what Doctor Hayne has done, and say let's reform the teaching of Latin and teach a Latin that will be of some use to us and not the material they are teaching today and the material they taught when I was in school and college.

Dr. J. H. Taylor:

It is with no desire to give you the impression that I am a student of Homer that I shall quote him in discussing Doctor Brailsford's paper.

After telling of the wonderful exploits of his Greek heroes before the walls of Troy, he says, "And we boast ourselves to be greater men than our fathers." This is just as apropos now as it was several hundred years before Christ.

Continuing his thought, I have often wondered what the ancient Hindoos would think of our physicians of the present day, and the low standards required for a license to practice medicine. We are told in the Ayar-Veda, one of the Sancrit sacred poems dealing with the Hindoo system of medicine, that after a thorough training, both in theoretical and practical medicine, the student was required to stand a rigid examination before he was licensed to practice. And furthermore, not every man, by any means, was allowed to study medi-The applicant had to conform to certain rigid intellectual, social, and personal requirements.

And yet, we who, "Boast ourselves to be greater men than our fathers" are extremely lax as regards the type and preliminary education of our applicants. Until we realize the vital importance of in-

sisting upon a proper preliminary education, we shall remain as we now are—not only a hundred years behind the present time, but even far short of the physicians of one thousand years before Christ in the land of the ancient Hindoo.

CROSSEN'S METHOD OF PRECLUDING THE POSSIBILITY OF UNINTEN-TIONALLY LEAVING GAUZE IN THE ABDOMINAL CAVITY.

*By Lindsay Peters, M. D., Columbia, S. C.

VENTURE to assert that there is practically no conscientious surgeon of any considerable experience who has not, at one time or another, suffered the post-operative mental torture of being unable to absolutely assure himself that he has not, by accident or oversight, left a piece of gauze in the abdominal cavity; and that this deplorable accident does, in fact, occur not rarely is quite evident from the number of cases reported in medical literature, and from the fact that nearly every surgeon with whom one discusses the subject is able to give account of personal experience with at least one or two cases of this sort, either he himself having been the victim of the accident or else having discovered the foreign body after an operation performed by another surgeon.

There are few things which cast such discredit upon surgery as these cases, when they come to the knowledge of the laity; and I believe that there is nothing which so menaces the surgeon with suit for malpractice as the possibility of their occurrence; yet, so far as I am aware, there is no surgeon in South Carolina whose operative technic gives absolute protection against this accident. The methods in gen-

eral use to prevent the loss of gauze sponges in the abdominal cavity during operation are either to count the sponges and pads before and after the operation or to have attached to the gauze pads tapes to be clamped to the towels or sheet surrounding the incision. That these methods are inadequate is shown by the great number of instances in which gauze has been left in the abdomen in spite of these precautions.

The seriousness of the accident is too evident to require discussion and, in view of the above facts, I desire to call attention to a procedure which is simple in execution, economical, and time-saving, and which gives absolute protection to patient and surgeon against the misfortune of having gauze closed up in the abdomen.

I lay no claim to any originality whatsoever in the method which I am about to describe; I simply desire to present for your consideration a simple and effective means of avoiding one of the most embarrass. ing and distressing of surgical accidents. This method is described by its author, Dr. H. S. Crossen, of St. Louis, with a full consideration of all aspects of the subject, in the American Journal of Obstetrics for January, 1909, under the title "Abdominal Surgery Without Detached Pads or Sponges. A Simple and Universally Applicable Method of Preventing the Serious Accident of Leaving a Sponge in the Abdomen."

The following description of the method is in large part taken from the article of Doctor Crossen:

The underlying principle of this method is the elimination of all detached pads and sponges. In place of them long strips of gauze are used, each strip being packed into a small bag in such a way that it may

^{*}Read before the South Carolina Medical Association, Florence, S. C., April 16, 1914.

be drawn out a little at a time as needed. A set of gauze strips for use at an abdominal section consists of four narrow strips for sponging and one wide strip for packing back the intestines.

Each narrow strip consists of a piece of gauze ten yards long and one-half yard wide. This is folded lengthwise so as to make six thicknesses. The folded strip is approximately three inches wide and ten yards long, with raw edges turned in and the ends tacked with thread to keep it from unfolding. The bag for each narrow strip is five inches wide and ten inches deep and is preferably made of extra heavy material and is sewed in such a way that there is no chance for a raveling to be pulled out with the gauze.

Beginning with one end, the gauze strip is packed firmly, a little at a time, into the bag. When the end of the strip is introduced to the bottom of the bag it is to be fastened there by stitching through through, so that if by any possibility the whole strip should be packed into the abdomen (to check a sudden, severe hemorrhage or for other reason) the end would still remain securely fastened outside. When all the strip has been packed into the bag the top of the bag is closed by folding over and a large safety pin is attached to the bottom of the bag. This safety pin is for use later to fasten the bottom of the bag to the abdominal sheet. It should be large, so that it will be strong and easily handled. Four of these filled bags belong in each abdominal section set.

The wide strip consists of a piece of gauze five yards long and one yard wide. This is folded lengthwise to make four thicknesses. The folded strip is approximately nine inches wide and five yards long. The

bag for the wide strip is ten inches by six inches, and open at the side instead of at the end. One end of the strip is fastened securely in the bottom of the bag by stitching through and through and the folded strip is placed in the bag in such a way that when pulled upon it will come out a little at a time as a wide strip. The open side of the bag is closed and pinned with two safety pins, which are used later for pinning the corners of the bag to the abdominal sheet. One wide strip and four narrow strips constitute one set. The narrow strip is used for sponging, for walling off small areas and for all purposes for which small pads and sponges are ordinarily used. The wide strip is used for packing back the intestines, walling off large areas and all purposes for which large pads are ordinarily used.

At the operation the lower end of a bag containing a narrow strip is pinned to the sterile sheet a sufficient distance away to bring the mouth of the bag conveniently near the wound, but not in the way. If desired, the upper end also may be pinned to the The gauze strip is used as a sponge by catching a small part of it with the fingers or with forceps and pulling it out of the bag as required and then sponging in the ab-After use this part is dropped away from the wound and another small part is drawn out and The used part is not cut off, but simply dropped outside the operative field and, as more and more of a strip is used, this soiled part falls off the table and out of the way. Thus the greater part of the strip is always outside the abdominal cavity. No detached pieces of gauze are used in the cavity and hence none can be left there.

Usually two strips, one placed on each side at the beginning of the operation, are used in the course cf the ordinary abdominal section. cases where there is but little sponging, only one strip is needed. very extensive operations where an extra amount of sponging is required three or four strips may be Only very exceptionally needed will it be necessary to use more gauze than that contained in one set. though it is a wise precaution to always have an extra set sterilized and ready for use. When ready to pack back the intestines out of the operative field the bag containing the wide strip is wrung out of hot saline solution, laid on the abdomen, two corners pinned to the abdominal sheet and the wide strip is then drawn out as needed to push the intestines out of the way and wall off the involved area.

These gauze strips are used exclusively in the entire abdominal section work from the time the skin is incised until the peritoneal cavity is closed. Tangling of the gauze strips about the forceps in the wound is easily avoided by always dropping the soiled portion of the strip outside the field close to the bag. This prevents the accumulation of loose folds about the wound, with which the instruments may become entangled.

In using this method there is a rule which should be most strictly observed, namely, never cut a gauzestrip sponge in the course of an operation. The temptation to cut the strip comes not infrequently, because in certain situations it makes the sponging somewhat more convenient. In some situations the cutting would, of course, not be dangerous, as when part of the strip outside is cut off and allowed to drop

away. On the other hand, in other situations the cutting of the strip might lead to a portion being left, as when a part is used for temporary packing and then the strip is cut in order to sponge more conveniently with the remainder. Whenever a cut is made in one situation for any reason the rule is broken and then a cut is likely to be made on the spur of the moment in any other situation where it appears to increase the convenience and thus absolute security is lost. The only safe plan is to adhere strictly to the rule and never to cut a strip during the course of an operation. Of course, if at the close of an operation it is desired to use part of a strip for permanent packing or drainage, that is a different matter.

In considering the cost of the method, I agree with the statement of its author that, preventing as it does one of the most serious accidents in abdominal surgery, it is cheap at any price. Even though its use cost several times as much as the dangerous detached sponges that would not constitute a valid objection. As a matter of fact, however, it costs no more than the usual method; if any difference, the cost is somewhat less.

Where it is used as a routine method nurses have welcomed it because it is less troublesome than the sewing of numerous small pads and sponges.

Some will say that other methods in general use give practical safety and it may be urged with some plausibility that where a surgeon always operates in the same hospital with the same assistants and to a large extent with the same nurses, month after month, the danger of leaving gauze in the abdomen is reduced to a negligible consideration,

because of the establishment of a routine from which there is no departure; but even under these most favorable circumstances the danger is not entirely eliminated. And what of the great bulk of surgical work where the operator works at different hospitals, with different nurses and often with changing assistants? Abdominal surgery is notably full of uncertainties, unlookedfor developments and trying situations that break the routine of the best regulated institutions and tax to the utmost the ability and steadiness and attention of all concerned in the operation. Moreover, think of the emergency work in unsuitable environment and with untrained assistance! In estimating the possibility of this accident all these conditions must be taken into consideration.

I do not know of any method which gives the same protection as the one I have described and if there are other methods equally safe I hope that our attention may be directed to them in the discussion. If there be no other method which affords absolute protection I trust that I may be doing some service to the surgeons here present and to their patients in urging the universal adoption of this method in abdominal surgery.

Directions to the nurse for making gauze-strip sponges for abdominal section as follows:

Four narrow strips—10 yards long, 3 inches wide—6 thicknesses. One wide strip—5 yards long, 9

One wide strip—5 yards long, 9 inches wide—4 thicknesses.

Have another set (four narrow and one wide) in reserve.

For the narrow strips, the yardwidth of gauze is divided into two strips, and each of these when folded to six thicknesses, is about three inches wide. For the wide strip, the full yard-width of gauze is used—when folded to four thicknesses it is nine inches wide. Turn in all raw edges so that no raveling can be left in the abdominal cavity.

Pack each narrow strip into a separate small cloth bag, 5 inches wide and 10 inches deep, and attach a large safety pin to the bottom of the bag. The safety pin is to pin the bottom of the bag to the abdominal sheet at operation. Make the bag of extra heavy muslin or drilling and sew with French seams to avoid ravelings on the inside. The end of the strip first introduced to bottom of the bag should be fastened there securely by stitching through and through. Then pack the strip firmly into the bag in such a way that it will come out easily, a little at a time as needed. Four of these filled bags belong in each set.

For holding the wide strip, use a bag 6 inches by 10 inches and open on the side, instead of at the end. Fold the strip back and forth, thus forming an arrow pile about three inches wide. Fasten one end of the strip securely to the bottom of the bag by sewing through and through. Then place the folded strip in the bag in such a way that, when pulled upon it will come out, a little at a time, as a wide strip suitable for packing back the intestines. Fold over the open side of the bag and pin with two large safety pins. safety pins are for fastening two corners of the bag to the abdominal sheet.

One wide strip and four narrow strips constitute one set and are to be wrapped together in a cloth for sterilization in the usual way. Have also an extra sterilized set in reserve. At the operation the bag containing the wide strip is to be placed in hot normal saline solution. The narrow strips are to be used dry.

ABSTRACT OF A NEW METHOD OF LATERAL ANASTOMOSIS OF BLOOD VESSELS AND AN OPERATION FOR THE CURE OF ARTERIO-VENOUS ANEURISMS.

*By J. Shelton Horsley, M. D., Richmond, Virginia.

R. HORSLEY reviewed briefly the history and technique of lateral anastomosis of blood vessels, both when uniting an artery to a vein, as in reversal of the circulation, and when uniting vein to vein, as in Eck fistula. He doubts the practical utility of reversal of the circulation and mentions some of his experiments which are not yet ready for full report, but which seem to show that in reversal of the circulation by the end-to-end method the blood returns to the heart by anastomotic venous branches a short distance below the site of operation, and that the arterial blood in the reversed femoral vein never reaches the foot. If the circulation is to be reversed, however, it should always be done by lateral anastomosis and not by the end-to-end method. The author describes a clamp which he has devised for lateral anastomosis of blood-vessels. It is five inches in length, has delicate curved blades, and the handles are in an axis with an imaginary line drawn from the tip to the heel of the blades. permits the handles to lie flat and they are out of the way during suturing. The forceps can also be used for temporary occlusion of blood vessels and for the cure of arteriovenous aneurism. In a lateral anastomosis the vessels are clamped by two of these forceps and held together by two sutures near the end of the

proposed anastomotic opening. opening is made with scissors and a tractor suture is placed in the outer wall of each vessel but not tied. The suturing is done with a curved needle, the knot being on the outside. A continuous overhand stitch is used and when the other angle has been reached, one of the tractor sutures in the outer wall is withdrawn and a tractor suture placed so as to unite This when pulled upon both walls. everts the intima and makes the suturing easier. The thread is tied to the short end which was grasped in the hemostat when the first knot of the continuous suture was made. In using the forceps for arterio-venous aneurism, the vessels are first dissected down to the aneurism, and first the artery and then the vein are grasped by the forceps near their point of communication. The communication between them is then divided and the opening sutured. This makes the operation easier even when a tourniquet is applied but it should be especially valuable where no tourniquet can be used, as in the upper femoral region.

SOME EXPERIENCES ON PRIVATE DUTY.

*By Miss Edith Evans, R. N., Sumter, S. C.

A CITY DOCTOR once asked me if I had ever had much difficulty in carrying out the doctor's orders on private duty, or had had to meet many "emergencies." At the time I could not think of any emergencies worth mentioning, but later it suddenly dawned upon me that "meeting emergencies" and overcoming difficulties, is taken as

^{*}Read before the Southern Surgical and Gynecological Association, Asheville, N. C., 1914.

^{*}Read at a joint meeting of the Sumter County Medical Association and Sumter Nurses Association, 1914.

such a matter of course in our work, that we immediately proceed to forget them. Thinking that some experiences that I have had while on private duty might prove interesting, I have set down some of them.

Sometime ago I was called to nurse an accident case. A child fell about forty feet from a tree, where he had been getting grapes, fracturing his skull in the fall. I reached the case about twenty-four hours after the injury, and found the child unconscious, the stomach and abdomen distended and grape hulls in his mouth and throat. It was desired to wash out the stomach. The nearest stomach tube was six miles away. I suggested using a rectal tube, which I had in my bag, attached to a fountain syringe. This, we proceeded to do and relieved the boy of large quantity of undigested grapes. The boy regained consciousness shortly afterwards, and recovered without operating, there having been no depression of the fractured bones.

Several years ago I was called to nurse a fever case in an adjoining county. I was directed to go by train and to get off at a certain station. When I alighted from the cars, there was no one in sight to meet me. Looking around, I found an old farmer seated in a dilapidated buggy, drawn by a gray mule, and going up to him, I asked, "Is anyone here looking for a nurse?" He said, "Yes, they sent me for you." I put my baggage in and climbed up beside him. The weather was threatening rain. I said, "How far is it from here?" He answered, "Fifteen miles, and I'm mighty 'fraid you goin' to git wet." I said, "I'm neither sugar nor salt, it won't hurt me." He replied, "Well, I know you are somebody's darling." Upon arrival, I

found the patient with a temperature 104 degrees, covered up in bed. and wearing two complete heavy suits of underwear. I suggested removing these and putting on a night shirt. The people had never heard of such a garment for males, nor was there one to be had at the nearest town. I had them buy material to make some, and imagine my surprise, when the cloth came, to find myself called upon to cut and sew Such sewing never having them. fallen to my lot, I was at a loss how to begin, but I set to work and, after a time, succeeded in evolving something possible. But when the patient saw it, he rebelled and said he was no woman to wear a thing like After much persuasion, he that. finally gave in and allowed me to put one on him, and in a few hours was so gracious as to admit that he really felt much more comfortable.

It is amusing sometimes to hear ourselves discussed by people when they think we are out of ear shot. In this particular case, I was given a place to sleep in a little shed room off the front porch. I was awakened by hearing an old woman drive up and call out, "How's Tom?" to which the mother replied, "The nuss says he's better but I don't know whether he is or not." "Has the nuss come? How does she look?" "When she fust come, I thought she was powerful ugly, but now I find she is real pleasant." "Is she much trouble to feed? There was one down at Sam Parker's sometime ago and she couldn't eat nothin' they had." "Well, this 'un come here with a great big box full o' chocolate candy and a bag of green lookin' grapes, and she ain't wanted nothin' else vit. I had some nice corn pones, collards, and jowl for dinner, too, but she didn't eat none."

Speaking of sleeping accommodations, I was once called to nurse a case of fever in a country house where there were only two beds in the house. The patient—the wife occupied one. I sat up all night and was expected during the day to get my rest in the other bed in the adjoining room. The husband used this bed at night, and as it was in the spring of the year and he had been putting down guano all day and slept in the underclothes he wore, you may imagine the situation. The only bath he took before retiring was a foot bath at the pump on the back porch.

On another occasion I went into the country with a surgeon, to assist him in an operation for appendicitis. We found all the neighbors for miles around gathered here. When they learned the doctor was going to operate they scattered. The case was one with large abscess and the pus apparently almost ready to burst through the abdominal wall. The doctor, after examination, decided to open it on the bed, where the patient lay. We drew him to the edge of the bed, placed under him an improvised Kelly Pad, made from oil cloth from a table in the adjoining room, sterilized the skin, and the abscess was rapidly opened, with an outflow of foul-smelling pus. After operating, the doctor found it impossible to get proper after-treatment, so directed me to stay that night and bring the patient to the hospital next day. It was certainly a helpless feeling after he had gone, with the nearest doctor six miles away, and very little help to be expected from the people around. The women were all barefooted, yet ready and willing to do all they could and they tried to make things as nice for me as possible. Leaving the room for a few minutes,

I sat on the steps to get a breath of fresh air, and the lady of the house came and sat beside me with a brush and a box of snuff. Imagine my surprise, when she held the box towards me, and said, "Lady, will you have a dip?" I thanked her, but told her that I never "dipped." only means of light was a little tin lamp, without chimney, that we used in the patient's room. When supper was served, we ate with threepronged forks, from a table covered with greasy oil cloth. A torch stuck in a salmon can, served as a light. When preparing to take the patient to the station, four miles distant, next morning, the nearest approach to a cot to be had was a stiff sofa, which I made as comfortable as possible with quilts, which they had in abundance. Fifteen or twenty assembled neighbors escorted us to the station in a two-horse plantation wagon. We arrived there one hour before the train was due, and were received by all of the remaining folks in the neighborhood up at that early hour, and they were not a few. When the train arrived, they fell over each other in their efforts to be helpful and get him aboard, and in due time, I succeeded in bringing him in safety to the hospital, where he finally recovered.

At another time, I accompanied the same surgeon on a visit to a case of strangulated hernia. The patient was one of the most destitute I ever saw. He lived alone, in a two-room pole house, and when we arrived, together with the doctor in attendance, we found no one at the house but himself. I arranged the only table in the house for an operating table. The only means of sterilizing water was an iron pot sitting on the hearth in the front room. There was no stove. I washed out the pot, which

had been used for cooking hominy, and then boiled the water in it. There was only one basin on the premises, a tin one, which I found at the pump. At this juncture, a neighbor who lived not far off, came up, and being told of the difficulty said he could find us one, which he went and brought. This, we used for the solutions. In the midst of the operation, one of the neighbor's children came for the basin, saying that "Uncle Jim had come in unexpectedly and wanted to wash his To show hands before dinner." what can be done with crude appliances, this man made an uneventful recovery without a particle of infection.

In hospital work, of course, we have everything possible provided for the comfort of the patient and the convenience of the nurse, but in private work, especially among the poorer classes, and in the country, it is quite different. One of the greatest taxes upon me, has been the attempt to give frequent sponge baths to patients in low double beds. One's back will tire under the constant stooping. As a remedy one can usually get blocks or boxes on the premises, which, when put under the legs of the bed, bring it up to a more convenient height.

Feather mattresses upon the beds confront us on many occasions. As nurses we are taught that feather beds are unsanitary and impractical, but on going to a case of an old lady, used all her life to sleeping on feathers, and strenuously opposed to a change, what is the nurse to do? Shall we insist on working according to the book, or like the benighted Hindoo, "Do the best we kin do," and let the feather bed be?

In the absence of hot-water bags, we can usually find plenty of empty

quart bottles around, or failing these, parched meal tied up in a small flour sack, or hot salt in an old stocking, may be substituted. I once heard a physician say, that for a severe colicky pain in the abdomen, he had made use of half a dozen dinner plates heated in the stove and applied one after another, as fast as the first got cold. Another told me, that he had taken a hot hoe-cake from the griddle where it was cooking, and split it in two and applied it to the back in a case of lumbago.

Another problem that has confronted me is the proper ventilation of sick rooms among the ignorant. I have been called to a pneumonia case and found the patient in an airfoul room. The first thought, naturally, is fresh air. You proceed to ventilate the room against the violent protests of the family. The case proves fatal. The nurse is blamed for keeping the room too cold. This is not pleasant. What is she to do? Shall the patient be made to die according to rule, or as the family wishes? We are sometimes called in to do two or three days' nursing of a patient whom we find clad in a night dress, put on over a number of garments worn in the day. The patient objects vigorously to having them removed. We are to be there only a short time, after which the patient will certainly go back to his former habits. Should we assert our authority, remove them, and shoulder the responsibility of their "taking cold?"

We are taught that a daily bath is essential, and as a rule, we have no trouble in giving it, but at times, we find a person who seriously objects to a bath every day. In these cases, we have to use discretion. While speaking of baths, I would like to get the opinion of the doctors present

in the following contingency: The case is one of fever, the orders read "bath every four hours," the patient has been wakeful and restless for hours, and has just fallen asleep when the time for the next bath falls due. Would the nurse be justified in letting the patient sleep, or must she adhere to instructions strictly?

Nurses are tormented with questions by the family and friends, and are frequently put in very embarrassing positions. I was once called to a neighboring town to nurse a case of a child suffering with measles, complicated with whooping cough, and in which a double-pneumonia had developed. The case was, of course, a desperate one. family physician was in charge and another physician in the town had been called in consultation. were employing the usual form of treatment, but the patient grew worse. The mother was frantic and wanted to know what I thought about the doctors in attendance, and the wisdom of calling in a certain doctor from this city. I said I thought the doctors in attendance were doing all that could be done. but, as the child's mother she might speak to them about additional consultation, if she wished. The mother was afraid of hurting the attendant doctors' feelings and asked me to speeak to them. This I declined to do, so nothing was said. That night the child died. The mother reproached herself, because she had not gotten additional consultation. She would have felt so much better had every possible thing had been done. In a very ill case, with the family tormenting her to express her opinion as to consultation, it becomes almost impossible at times for the tired nurse to keep from saying something. In such a case would it be proper for her to give an opinion?

There is a situation that arises sometimes between the attending physician and the nurse, more often with those physicians who do not call in the assistance of a nurse very often, that causes the nurse to feel very badly, and often entails upon her unnecessary trouble. Some physicians, probably unconsciously, and almost certainly, unintentionally, ignore the presence of the nurse in the case, and instead of giving her the directions for the patient, give them to the mother or daughter of the house, as the case may be, or in asking about the patient over the phone, make the inquiry of some member of the family, rather than of the nurse. This tends to discredit the nurse in the estimation of the family, and makes her feel very much slighted. The nurse aims to be strictly loyal to the doctor; she has spent a number of years in fitting herself for her profession, and she naturally hopes to be treated with professional courtesy. We ask the doctors to be thoughtful of us in these matters. A nurse's life is filled with many hardships and many difficulties, and many times, the temptation comes to give up for something easier, but the life also has its bright side in battles won against disease and suffering, and in friendships and lasting attachments made. With all of its hardships, I have never been able to make up my mind to give it up.

REPORT OF INTERESTING CASE.

Columbia, S. C., Dec. 22, 1914. Dr. E. A. Hines,

Seneca, S. C.

Dear Doctor:

A very novel method of taking a hypodermic was introduced to me the other day by a "dope fiend," who came to my office for a "shot" of cocain. His method of taking the drug made such an impression on me that it occurred to me to write you about it and if you thought it of sufficient interest, to publish it in The Journal.

The unfortunate was a young white man and, as he representated, was badly in need of his drug. happened to have a small bottle of cocain solution and offered to give him the injection, but he said he would take it himself, as he was in a great hurry. So saying, he drew a large safety pin from his pocket, and, exposing the front of his thigh, introduced the point of the pin along under the skin for about half an inch. Then he filled an ordinary medicine dropper with the solution and carefully approximated the end of the dropper to the wound in the skin, and by pressure on the bulb, succeeded in injecting the entire amount. This procedure took much less time than it takes to tell about it.

He informed me that he had been using this method for years and that he had never had an abscess. He accounted for his good fortune in that respect by saying that it was his custom to take a bath twice a week, even if he had to take to the river.

Yours truly,

THEO. M. DUBOSE, JR., M. D.

OBSTRUCTIONS OF THE NOSE AND THROAT.

*By T. .C. Quickel, M. D., Gastonia, N. C.

AM GLAD to meet with you today, and assure you that I am encouraged to see such a goodly number of excellent citizens here willing to learn how to keep yourselves in the best physical condition possible, and how to safeguard your children in order that they may develop into strong men and women, with sound bodies and active minds.

Today the great drama of life is being acted under high tension, and the movements are so swift and stupendous under the terrific power of steam and electricity, that even now it requires strong healthy bodies to keep in the race. We are reminded of this with increasing frequency by the sudden collapse of some who are struggling at the head of this onward marching procession. While we are living in a strenuous age, and our physical and mental strength are taxed, the demands upon our children will be more exacting, and if they are to hold their place in the mighty struggle of life, it will be imperative that they have the power to press on and the strength to endure to the end. This makes it the supreme obligation of every parent to see that any hindrance to their children's development is removed, and that nothing be allowed that will hinder them in developing wellrounded normal bodies with the maximum power of endurance. That you may not be ignorant of how to safeguard your own health and the welfare of your children, the physicians of this county have invited you here today that they may impart to you facts that should be of untold These are physicians whom value. you know and have tried in the fiery furnace of experience, and what they say you should accept as truths garnered from a life of study and mature judgment. As I am not a member of this excellent Society, I feel that I can express my warm commendation of their work without any impropriety. So I urge you to hear aem and heed their advice. This is

^{*}Read before the York County Medical Society, 1914.

an unselfish service on their part, and has required the sacrifice of their time and convenience to lay aside their work and come here today. Think of them as noble men, willing to rise above their own selfish interests and labor for your upbuilding and preservation. They will tell you many things you need to know regarding the various dangers that await you along the pathway of life.

But I have as my special subject the obstructions of the nose and throat. My remarks will apply more especially to the child. I am glad that my work gives me so many opportunities to help those that are still in the period of development, for, by relieving the child, I may be helping it to become a power in politics, business, or religion.

In children the most frequent cause of obstruction in the nose and throat are adenoids and enlarged tonsils. Adenoids grow at the posterior openings of the nostrils and interfere with the proper intake of air, making it difficult to breathe the breath of life normally and easily. Hardly a day passes that I do not see some child struggling along handicapped in this way. cause there is no cry of pain, no immediate danger of death, no notice is taken of them, and nothing is done for their relief. Perhaps the child is cross and troublesome or is dull mentally, and the rod of correction is employed liberally for its improve-When a casual observation would cause you to see your own child going about breathing through its mouth because it has some obstruction to the free and easy passage of air through the nose.

In order that you may better understand and sympathize with these children, I invite you to try, for your own edification, breathing through your mouth continuously. I predict that you will not be a very agreeable companion with whom it would be a pleasure to spend the last few hours of the waning day. But try it, and then think of your poor helpless child that struggles each hour day and night, working hard for the pure air which the great Creator provided in such abundance and intended that we should receive it freely and without effort.

Your nose has connected with it several cavities. The dull feeling and sluggish brain which go with a cold are the result of stagnation, brought about by excluding the free circulation of air in these nasal cavities. When the air in these becomes stagnant, congestion and swelling All of you are familiar with the disagreeable condition, and rejoice that it is of short duration. The same condition is maintained in a nose obstructed by adenoids, but it endures from day to day. trust you can begin to understand why a child with this affliction is likely to be dull mentally and somewhat ferocious morally. Maybe you will get a better idea of the importance of the conditions if I give you a few illustrations. Sometime ago I was asked to see young girl. The history was that for the past year she had not been strong and had not gained in weight as she She was dull, should have done. listless, and nervous. Unable to sleep at night because of difficulty in breathing. While she had not complained of any pain, and had not been confined to the house, yet she had all indications of not being in good Her parents were apprehealth. hensive that the great white plague had laid hold of their first born. When I examined her throat, I found a large adenoid which was

removed. The improvement in her condition began immediately and to-day there is not a more robust child in our city. Why? Because she can now rest quietly and undisturbed, and she can breathe the life-giving oxygen freely and easily. We all agree that there is no tonic equal to pure air, but what benefit can we hope to derive from it if we have obstructions to its free entry into our lungs.

A few weeks ago I removed the obstructing tonsils and adenoid for a boy thirteen years old. Four days later he said to his mother. "I have never had but two nights sleep in my life. They were last night and night before." How often had this fond mother sat by her child's bed, keeping him in position that would lessen his labored and noisy breathing. What if he had been stricken with pneumonia, diphtheria, or some other disease that would have placed more work on his breathing power? Yet this condition would have continued, had he not realized the necessity and insisted on having relief. What can this mother do to repay her own boy for having allowed him to labor during these years for the very breath of life when it could have been so easily remedied?

About eighteen months ago, a mother brought her nine-year old daughter to me, because she could not learn her lesson at school. This child was forgetful, and unable to center her thoughts upon the task before her. In her case, going to school was a waste of time as well as a source of irritation to her, and a continual annovance to the teacher and the school. This child was both dull and annoying. That breathed through her mouth was clearly evident on casual inspection. The characteristic facial expression of any habitual mouth breather proclaims the affliction to any observing eye. Examination disclosed a pair of enlarged tonsils and considerable adenoid tissue. These were moved. During the last school year she never graded below ninety in any study, and her record for deportment was exemplary. Can you picture in your minds this pale, fretful, disagreeable child and the many times she must have been punished and urged on by various means? If you can, then think of how unjustly she has been treated. Here was a child whose brain was clogged by congestion and dulled by lack of oxygen. She was hampered through no fault of her own, and was justly entitled to help, rather than blame. A child can not learn when it must devote its attention to breathing. Under these circumstances, breathing is not the unconscious, involuntary process that it is to a normal child, but requires a considerable expenditure of both nervous and muscular energy. It is a heavy and unjust tax upon their strength at a time when they can least afford it.

We may compare our bodie's to an engine, the bearings of which are perfectly adapted to their purpose and its parts evenly balanced. Without fuel the engine is without power, and without air, the fuel is For you all know that without air the fuel will not burn. You are also aware that if you are to secure any steam pressure the air must be supplied through the proper channel. It does not suffice that the air be admitted through the same door by which you furnish fuel. You can't keep up steam long feeding fuel and air by the same door. With our bodies the food is the fuel and the mouth is the door through which it is taken. The nose is the

draft holes by which air is supplied. It is just as necessary to feed fuel and air by the proper channels to maintain power in our bodies as it is in our engine. Feeding food and air by the mouth will keep the fire of life going, but you can't run at high tension. All of you supply food in abundance, but some of you are exceedingly careless about the draft which will insure its proper combustion. With your engine when the draft is wrong, the flues get clogged. Just so with the delicate passages in the lungs and bronchial tubes. They become congested with blood and clogged with mucus because the air has not been properly prepared for them. They cease to do their work thoroughly as we re-The poisons which they quire. should eliminate are retained, and the tissues of which they are composed are weakened. A fertile field in which the germs of tuberculosis like to grow is provided. Their resistance is lowered and the general bodily growth retarded. Dull mentally and weak physically, they struggle along all the time in danger of falling an easy prey to the numerous infections that await them. That these children will develop into strong men and women capable of battling their way to the front, is a hope you have little reason to cherish. Children are like plants, requiring the greatest care while they are young. You can't neglect them until they have passed through their years of development and then expect them to attain their full statue and yield their full crop of achievement. Like the corn in the field the time to cultivate is while they are young and developing. You would not neglect to remove the weeds which choke your corn until late in the season and then expect a normal

yield. Neither should you expect a normal child to develop when it is choked and hampered oy such obstructions as adenoids and enlarged tonsils. Have these removed and give your child a chance to develop unhindered by these obstructions to free and easy breathing. hear so often, Oh! I can't have any operation on my child! I love it too much or I can't afford it, and various other excuses are used to satisfy the conscience for not doing your duty. But you have no right to rear your children handicapped in any way that will hinder them in developing into strong men and women, both physically and mentally, and this is especially so if the cause be so easily removed as adenoids. Your love for your children should prompt you to neglect nothing that will aid them in reaching their adolexcense, the happy possessor of well-developed healthy bodies. There is nothing that you can do for them that will be in any way comparable to this.

If you are negligent of your duty and rear your children dwarfed in body and mind when these could have been prevented, and in your old age you are disappointed in their achievements, I beg of you to be lenient with their shortcomings as you are with your corn in your fields that you failed to protect from the weeds and grass. But if you are careful to remove all obstacles to their growth till they have developed into strong men and women, they will resist many of the foes that lurk in hidden places ever ready to lay hold and destroy us. See to it that a strong body and an active mind are provided for your offspring, and then you have a right to expect a full crop of noble deeds and worthy achievements.

SOCIETY REPORTS

ANDERSON.

The Anderson County Medical Society held its last meeting for the year 1914 Wednesday, December 2d, at 12 o'clock, sixteen members being present.

After the reading and adoption of the minutes of the last meeting the annual report of the Secretary and Treasurer was made and accepted. In this report we found that sixteen meetings had been held during the year, with an attendance of fifteen members—a slight increase over last year's attendance. It was also noted that our President, Doctor Ashmore, has been present and has presided over every meeting held during the year.

The retiring president made an address and following this the election of officers for the ensuing year took place, which resulted as follows:

President—Dr. B. A. Henry, Anderson, S. C.

Vice-President—Dr. H. A. Pruitt, Anderson, S. C.

Secretary-Treasurer—Dr. Olga V. Pruitt (re-elect), Anderson, S. C.

The remaining part of the hour was spent in the report and discussions of interesting cases by the following members: Drs. Ashmore, H. H. Harris, W. H. Nardin, J. C. Harris, and C. S. Breedin.

OLGA V. PRUITT, Secretary.

BAMBERG.

The Bamberg County Medical Society held its usual monthly meeting Wednesday, December 9th. Owing

to the condition of the roads caused by rain the attendance was unusually small.

This being the month for the election of officers for next year, there were no papers read. The following officers were duly elected:

President—Dr. J. H. Roberts,, Ehrhardt.

Vice-President—Dr. H. J. Stuckey Bamberg.

Secretary and Treasuer—J. S. Mathews, Denmark.

The year just ended has been a very successful one with the Society. There were held eleven monthly meetings and the District Society was entertained by the County Society once.

J. S. MATHEWS, Secretary.

NEWBERRY.

The Newberry County Medical Society held its regular monthly meeting December 11th with a fairly good attendance.

The scientific program consisted of a paper by Dr. W. G. Houseal on "Otitis Media." This was very generally discussed by the members present.

The election of officers resulted as follows:

President—Dr. Z. T. Pinner.

Vice-President—Dr. W. E. Pelham, Jr.

Secretary and Treasurer—Dr. J. B. Setzler.

Board of Censors—Drs. W. G. Houseal, J. M. Kibler, and W. A. Dunn.

J. B. Setzler, Secretary.

PICKENS.

The annual business meeting of the Pickens County Medical Society was held at Easley, Wednesday, December 4th, 2:00 P. M., in the office of Dr. C. N. Wyatt. No other business was taken up other than the election of officers. The result of the election is as follows:

President—Dr. J. L. Valley, Pickens, S. C.

Vice-President—Dr. H. E. Russell, Easley, S. C.

Secretary-Treasurer—Dr. J. P. Jewell, Easley, S. C.

Delegates to State Medical Association—Dr. C. N. Wyatt, second year; Dr. W. A. Woodruff, first year. Alternates—Drs. W. A. Tripp and J. P. Jewell.

Next meeting to be held at Easley, Wednesday, January 7th.

J. P. Jewell, Secretary.

SPARTANBURG.

The Spartanburg County Medical Society met on December 18th for its annual business meeting. The attendance was unusually large.

The Society had as its guest Dr. W. T. Jackson, the newly elected health commissioner of Spartanburg. Doctor Jackson is an author and lecturer of some note and his wide experience in public health work makes him a valued visitor at the Society meetings.

Plans for asking for relief for poor pellagrins were discussed and it was decided that a committee of which Dr. J. L. Jeffries is Chairman, meet with Spartanburg County's delegation to the General Assembly and ask them to continue giving the county four thousand dollars per year with which to care for these

poor patients. It was also decided to request the delegation to work for a State Commission on Pellagra.

The following officers were elected to serve the Society during the year 1915:

President—Dr. J. J. Lindsay, Spartanburg.

Vice-President—Dr. George E. Thompson, Inman.

Secretary—Dr. L. Rosa H. Gantt, Spartanburg.

Treasurer—Dr. W. B. Lancaster, Spartanburg.

Censors—Drs. D. R. Norman, Fairforest; W. W. Boyd, Spartanburg; J. W. Chapman, Inman.

Delegates—Drs. S. T. D. Lancaster, Pauline; Baxter Haynes, Spartanburg; W. H. Chapman, Spartanburg, R. F. D. 1.

L. ROSA H. GANTT, Secretary.

YORK.

The York County Medical Society held its October meeting at the historic old Church of Bethel. This meeting as we called it was a medical meeting for the laymen. I am glad to be able to say that they responded nobly and that the church was filled. This being the camping ground of our President, Dr. T. N. Dulin, and we, as the York County Medical Society, were invited by him and the community to meet there.

"Old Bethel" as it is called, by reason of age and endearment, is the father of a great many physicians.

At this meeting we had with us some of our neighbors from Gastonia, N. C., to whom we, as usual, gave the most work to do. They responded to the call and gave us some words and thoughts to ponder over. At recess we were invited by the ladies to an old-fashion picnic din-

ner, and it is useless to try to describe this. This part of the country is known for its excellence in the culinary art and I think that they tried themselves on this occasion, knowing that doctors never practice what they preach about eating and we *did not* on this occasion.

The day passed away very quickly and when we had to leave we, one and all, had only one wish: that another day just like it would soon be at hand.

J. I. BARRON,
Secretary.

YORK.

The York County Medical Society held its last meeting, by invitation, in Clover, S. C., on December 8th, and was a very profitable meeting.

We had with us on this occasion Dr. J. M. Caldwell, of Blacksburg, S. C., who read an interesting paper on, "Water, the History of Its Uses in Medicine." This paper was freely discussed and certainly enjoyed. Dr. R. L. Gibbon, of Charlotte, N. C., read a paper on "Perforated Peptic Ulcers, Diagnosis and Treatment." This was a very instructive paper and both Doctors Caldwell and Gibbon were unanimously voted the thanks of the Society for their kindness in responding to our requests for their papers. Dr. Henry Glenn, of Gastonia, N. C., was another welcomed visitor at this meeting.

This was the day for the election of officers. Dr. T. N. Dulin was reelected President and complimented on his proficiency during the past year. All other officers were reelected for another year.

After the meeting was over the doctors repaired to the homes of the Clover physicians where they were delightfully entertained.

The next meeting of the Society will be held, by request, in Rock Hill, S. C.

J. I. Barron, Secretary.

WILLIAMSBURG.

The Williamsburg County Medical Society met in regular session at Kingstree on Monday, December 7, 1914, at 2:00 P. M., in the office of Doctor W. V. Brockington, the President. The following members were present: Drs. W. V. Brockington, W. G. Gamble, C. D. Jacobs, E. A. Simmons, T. S. Hemingway, and E. T. Kelly. Visitor: Doctor Day.

Dr. W. G. Gamble gave a short but interesting address on the good of the County Society in which he urged regular meetings of and attendance on the Society.

The election of officers for 1915 was gone into and all old officers, on motion of Doctor Gamble, were reelected, viz: President, Dr. W. V. Brockington; Vice-President, Dr. F. T. Kelly; Secretary and Treasurer, Dr. A. G. Eaddy; Censors—Dr. T. S. Hemingway, C. D. Jacobs, and W. M. O'Bryan. Doctor Kelly held over as delegate to State Association.

On motion of Doctor Jacobs it was decided that the physicians of Kingstree tender to the members of the County Society a banquet on the date of the next regular meet, viz: January 7, 1915, at 8:00 P. M. Doctors Jacobs and Kelly were appointed by the chair as a committee on arrangements for the banquet.

Dr. T. S. Hemingway was appointed by the chair to read a paper at the next meeting, subject to be selected by himself.

A. G. EADDY, Secretary.

SCIENTIFIC MEETING OF THE MEDI-CAL SOCIETY OF SOUTH CARO-LINA, NOVEMBER 15, 1914.

Dr. A. E. Baker read a very interesting paper entitled "Cervical Ribs"—he briefly remarked as follows: "Until within the last twenty years cervical ribs were regarded as anatomic curiosities. Perhaps the oldest description of cervical ribs was published by Hunwould in 1742.

With the advent of the X-ray this deformity has been more frequently recognized during life. In seventy-five per cent of cases this deformity is bilateral. As a rule, the false rib arises from the seventh cervical vertebra. Beck, however, reports cases

in which they arose from the sixth cervical. These cervical ribs infringe on very important structures: the brachial plexus subclavian artery and vein, also the pleura.

The literature on the subject reports this condition as occurring seventy per cent in females and thirty per cent in males. The symptoms are considered under two heads—nervous and muscular. Cervical ribs rarely cause symptoms until adult life—it is estimated that only ten per cent cause symptoms. The essayist then reported a case which he had operated upon with success.

Respectfully submitted,

A. NATHAN, Secretary.



THE MODERN HOSPITAL.—The Modern Hospital; Its Insipration; Its Architecture; Its Equipment; Its Operation. By John A. Hornsby, M. D., Secretary Hospital Section, American Medical Association; Member American Hospital Association, etc., and Richard E. Schmidt, Architect, Fellow American Institute of Architects. Octavo volume of 644 pages with 207 illustration. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$7.00 net; half Morocco, \$8.50 net.

We confidently believe that no such comprehensive book ever appeared in American literature as this volume. It is a book of 644 pages and the treatment of the whole subject has been outlined with scrupulous care and detail. In fact every phase of hospital consideration and management has been written up with infinite care.

The authors apologize for a seeming weakness on account of the book being a record almost wholly of the experiences of the two men, which means that the work is the product of a hospital manager of wide experience and knowledge and a hospital architect of similar qualifications. To our mind this is a most commendable feature of the book.

We have often in our review columns commended the monograph as being the most satisfactory method of presenting any subject to the profession.

The authors take up almost every type of hospital, the large general, the charity and mixed hospitals and the private hospitals. They aid us in selecting a site for the hospital, tell us how to finance the project and build it, and how to provide for the running expense. No detail of equipment appears to have been slighted.

All of the various relationships of the hospital to the public have been discussed. The training school has been given a large section as it should be and described in all of its details.

We recommend the purchase of this book by every individual connected in any capacity with hospital management.

THE CLINICS OF JOHN B. MURPHY, M.

D.—At Mercy Hospital, Chicago. December, 1914. Published Bi-monthly by W. B. Saunders Company. Philadelphia and London.

In this number Doctor Murphy continues his very interesting clinical talks on diagnosis taking up the following subjects:

Fracture-Dislocation of the Spine at the

Level of the Twelfth Dorsal Vertebra.

Pressure of the Lower Fragment on the
Spinal Cord. Symptoms. Diagnosis—
Laminectomy. Neurologic Phase by Dr.

Chas. L. Mix. Appendicitis in Pregnancy
—Appendectomy.

Talk on Appendicitis—Apropos of a Case Operated on During the Previous Night.

Recurrent Cholecystitis—Cholecstotomy—Differential Diagnosis of Cholecystitis, Appendicitis, and Pyelitis.

Hodgkin's Disease (by Dr. Chas. L. Mix). In addition there are quite a number of other subjects discussed.

We note with particular interest the description of the new offices of Doctor Murphy and staff with pictures of same.

The entire volume is filled with valuable surgical suggestions as usual.

INTERNATIONAL CLINICS.—A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynecology, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading Members of the Medical Profession Troughout the World. Edited by Henry W. Cattell, A. M., M. D., Philadelphia. Volume 4. Twenty-fourth Series, 1914. Price \$2.00. Philadelphia and London. J. B. Lippincott Company.

Among the subjects treated are the following:

Abderhalden's Biological Diagnosis of Pregnancy.—By Philip F. Williams, M. D. Painless Childbirth or Semi-narcosis in Obstetrics.—By Daniel Longaker, M. D.

What Radium Can Do?—By Howard A. Kelly, M. D., LL. D.

Methods of Preparing and Applying Radio-Active Substances.—By William Duane, Ph. D.

Radium and Its Emanations in Internal Treatment.—By Joseph Muir, M. D.

These are frequently alluded to in the progressive journals of the day.

A visit to the Mayo Clinic has been given considerable space as written up by Skillern. This is a comprehensive write-up of that famous surgical mecca.

The Clinical Congress of Surgeons in London has been well described by Newell.

These books continue to meet satisfactorily an evident demand for collating medical and surgical knowledge.

TRANSACTIONS OF THE NATIONAL FOR THE STUDY OF PELLAGRA.—Second Triennial Meeting at Columbia, S. C., October 3 and 4, 1912. R. L. Bryan Company, Columbia, S. C. 1914.

This work is from the press of a South Carolina House but the subject matter has been brought together from practically the entire civilized world. One of the very interesting articles is by Dr. J. W. Babcock, of Columbia, on the "Medico-Legal Relations of Pellagra." The studies of the Thompson-McFadden Pellagra Commission have been incorporated. "Pellagrous Insanity in Egypt," by Pearson, is noted. In fact Pellagra has been presented in this volume as it appears in many parts of the world, and, therefore, the volume will be invaluable for all time. We would call special attention to the discussion of Pellagra as found in Italy, by Gosio, of Rome, and Antonini, of Milan. In view of the recent declaration of the Government service on the nutrition of pellagrins the paper by Sandwith, on "Can Pellagra be a Disease Due to Deficiency in Nutrition," is timely. Doctor Sambon discusses interestingly epidemiological phases of Pellagra. Doctor Babcock has given an epoch making paper on "How Long Has Pellagra Existed in the United States." Rupert Blue, Surgeon-General United States Public Health Service, gives his observations of Pellagra, from the public health service standpoint. There is no more important question before the profession today than that of Pellagra, and this volume of transactions is a veritable store house of knowledge hitherto accumulated in regard to the disease.

LOCAL AND REGIONAL ANESTHESIA.

—Local and Regional Anesthesia, including Analgesia. By Carroll W. Allen, M. D., of Tulane University, New Orleans, with an introduction by Rudolph Matas, M. D., of Tulane University, New Orleans. Octavo of 625 pages with 255 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

Quite a number of books have been published on anesthesia recently but this is the best one we have seen on the subject of Local Anesthesia. It is far more than a compilation and should go a long way toward popularizing local anesthesia in this country. The author has given the history of the various anesthetics and the princi-

ples, physiological and otherwise of their action. He has given the advantages and disadvantages and described minutely the exact technic to be followed. The illustrations are many and really designed to teach the reader. True the illustrations have been drawn largely from other authors but they have been selected wisely.

CHESMISTRY AND TOXICOLOGY FOR

NURSES.—Chemistry and Toxicology for Nurses. By Philip Asher, Ph.G., M. D., Dean and Professor of Chemistry at the New Orlean College of Pharmacy. 12mo. of 190 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$1.25 net.

This book takes up an intricate subject in a very engaging manner. We are struct with the clearness and brevity of the Author's conception of the scope of chemistry for nurses. We believe that training schools will find it an excellent text book.

A MANUAL OF DISEASES OF THE, THROAT, AND EAR.—Third Edition, Thoroughly Revised. A Manual of Diseases of the Nose, Throat, and Ear. By E. B. Gleason, M. D., Professor of Otology in the Medico-Chirurgical College, Philadelphia. Third edition, thouroughly revised. 12mo. of 590 pages, 223 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$2.50 net.

Gleason has given the profession one of the most popular manuals ever written in this country we believe. His style is decidedly attractive. This is the third edition since 1907 and is a complete revision throughout. The illustrations are excellent and numerous. Among other things Frontal Sinus work has been brought up to date and carefully handled.

QUALITATIVE CHEMICAL ANALYSIS.

—A Laboratory Manual of Qualitative Chemical Analysis. By A. R. Bliss, Jr., M. D., Ph.G., Professor of Chemistry and Pharmacy in the Birmingham Medical College. Octavo of 244 pages, with working tables. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$2.00 net.

This appears to be a concise presentation of the subject and should prove a very handy volume to the student in the laboratory.

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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

IMPORTANT MINOR SURGERY AND THE GENERAL PRACTITIONER.

There are some operations in the realm of surgery that every physician must be prepared to do. Most men in general practice do not hesitate to perform a curettage, to take stitches in a torn perineum, to reduce a fracture, to open abscesses, to amputate a finger, to suture wounds, to remove an in-growing toe 'nail-all of which are called 'minor' surgery. The average results of such work are fairly good, but will not be improved upon until they are done exclusively by surgeons. There is little chance of this, however, nor does there seem to be

any great need for it; though many of the cases do not require immediate attention, and might with safety be delayed until a surgeon could be consulted.

There are some other operations in surgery relegated to a special class of surgeons, which require just as thorough care as those mentioned, and by practice can be performed by any one with fair ease. They are often emergencies too; hence, the greater need of their being done by a larger number of physicians. The intravenous use of sait solution or the transfusion of blood, either direct or indirect, may decide the fate of a patient if done immediately. Yet only a small number of physi-

cians can perform these operations. Who can not remember one or more instances where a life could have been saved had it been possible to introduce blood, or at least salt solution into a vein? Most of us canand with regret. Therefore, it behooves us to become famailiar with at least one of the methods of blood transfusion. There are several, and each year brings out some new procedure in the technique. The suture of a vessel of donor to that of donee requires a greater degree of skill than any other method. Horsley's technique, however, has simplified this operation. Crile's, Ellsberg's, Soresi's anastamosis canulas: Brewer's, Bernheim's, Carrel's transfusion canulas: vein to vein transfusion with aspirating syringe and two-way stop cock; Satterlee and Hooker's method of withdrawing blood from a vein and re-injecting it into a recipient: or the use of defibrinated blood. are some of the valuable methods which have proven successful in the hands of those devising them. Recently Weil has used sodium citrate to prevent clot in immediate transfusion or to preserve the blood for future injection. These methods offer a choice to any one willing to perfect himself in blood transfusion; and a year will hardly pass before he will have need for his skill. Considering its life-saving value, each physician can soon grow familiar with the various steps in the technique, and undertake transfusion without fear.

Lumbar puncture is not performed often enough. It was first done by Quincke and since his time has come into great prominence as a diagnostic and therapeutic measure. It is not difficult; but a small number of physicians make use of it when the information it might give, or the re-

lief it might afford, would be invaluable. In suspected subarachnoid hemorrhage, in meningitis, in tetanus, in syphilis with nervous symptoms, and in an increasing number of other conditions, lumbar puncture is necessary. Most text books on therapeutic methods describe the technique, which can be learned readily.

Ability to use these surgical procedures will make us more efficient in practice and a greater number of lives saved will be our reward.

COUNTY SOCIETY REPORTS—SUMTER TO THE FRONT.

We have noticed a marked improvement in the County Society reports the past year. In general there have been more of them, and particularly have they improved in scientific value. We would call special attention to Sumter's report in this issue. Such a report discloses splendid scientific work on the part of the Sumter County Society-and vet Sumter is no exception. Such work is being done all over the State. For instance, we know that most excellent progress is being made in Greenville, yet The Journal rarely gets a report. For a long while we had no reports from Columbia, but of late the doings of the Columbia Society appear regularly, and are very interesting. We are exceedingly anxious to have reports from every Society in the State.

THE GREENWOOD MEETING.

The Secretary met with the Greenwood County Medical Society recently and perfected arrangements for the meeting of the State Medical Association in that city April 20, 21,

The program is in active and 22. preparation now and promises to be one of the best we have ever had. The call for titles has been sent out and already many responses have been received. We hope to publish the provisional program in March Journal, and would request all who intend to read papers to send in titles to the Secretary at once.

PERSONALS AND NEWSITEMS

Dr. J. E. Watson has moved from Iva to Anderson, Doctor Watson will engage in general practice.

Dr. J. J. Glenn, who has been located at Sandy Springs, Anderson County, removed to Yorkville recently.

The Chester Sanitarium will shortly open its doors to the sick public. Dr. H. E. McConnell is president of the new institution.

The Columbia Medical Society, at its last meeting, invited the dentists of the city to meet with them, and as a result, one of the most interesting meetings of the year was held.

Dr. Frank Smith, one of the most substantial citizens of the up country, died at his home in Easley, February 3d. For a number of years Doctor Smith was an active practitioner of medicine.

At a recent meeting of the Anderson County Medical Society Mr. S. M. Wolfe was elected attorney for the Society. The Society will undertake to secure an amendment to the medical practice act, so that same will prove more effective in controlling illegal practice in this State.

ORIGINAL ARTICLES

HOMOEOPATHY.

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*By A. L. Smethers, M. D., Anderson, S. C.

Y INVITATION of the Anderson County Medical Society, I am to have part in this meeting, and through your ex-president, Doctor Ashmore, who voices the sentiment of the Society, I have been requested to prepare a paper on Homoeopathy.

This paper is very largely a compilation of what other physicians

*Read before the Anderson County Medical Society, 1915.

have written on this important subject.

It is a law of learning that we proceed from the known to the related unknown, hence I will rather illogically begin with the Homoeopathic physician, since you probably know more about me than about my system of medicine.

One of the writers in one of our leading periodicals says: "We, of the homoeopathic profession, are the colleagues of the old school whether they will or no; we study the same books; read the same periodicals; discuss the same questions from the

same viewpoints in our medical conventions and at our firesides; their bacteria are our bacteria; their germicides are our germicides; their protozoa are our protozoa; their toxines are our toxines; their prophylactics are our prophylactics; and their surgery is our surgery. Only in therapeutics do we differ."

The American Institute of Homoeopathy adopted the following definition for a homoeopathic physician: "A homoeopathic physician is one who adds to his knowledge of medicine a special knowledge of homoeopathic therapeutics and observes the law of similia. All that pertains to the great field of medical learning is his, by tradition, by inheritance, by right."

I will now quote the answer as stated both positively and negatively to the question "What is Homoeopathy," in "Why Students of Medicine Should Select the Homoeopathic School." Homoeopathy may, therefore, be defined as the science of therapeutics based on nature's law for healing. It is the science of the selection of a remedy that causes, in the healthy, effects similar to those for which it is employed in disease. The methodical testing of drugs on the healthy was first done by Hahnemann; he saw at once the fallacy of obtaining a knowledge of drug action by testing upon animals, knowing that effects of medicines vary according to the animal experimented upon. Thus it is known that rabbits will eat Belladonna leaves, pigs will eat Nux vomica freely, hogs and horses will eat Aconite, all of which substances are poisonous to man. We know, too, that drugs affect different animals differently. thus Ipecac is an emetic to man and dogs, but not to rabbits. Conium will poison the horse, but not the ox.

Hence the necessity of testing drugs on the healthy human body to determine their rightful actions. testing must be done singly, for to obtain the pure action of a drug it must be administered singly and alone, unmixed with any other substance. If tested singly there is not the necessity for so large a dose, and this has led to the small doses of the system, for it is reasonable to suppose, and experience verifies the supposition, that a single drug acts better when uninterferred with by any other substance, and so polypharmacy is no part of Homoeopathy. Again, it has been found that the dose repetition is not needed so frequently. Therefore, to recapitulate the fundamental features of Homoeopathy we say:

First. Disease is manifested by its symptoms—all the symptoms—or, by what we term the totality of the symptoms of a given case.

Second. Knowledge of drug action must be obtained by experimentation upon the healthy human body, and this has been largely done for us by the early workers in the school.

Third. The curative relation between these two sets of phenomena is, by virtue of the "law of similars" or similia similibus curantur.

Fourth. The selected remedy should be administered singly, uncombined with any other; hence, the doctrine of the single remedy.

Fifth. It should be given in the smallest doses that will cure, hence, the minimum dose.

Sixth. As enough is sufficient the dose should not be unnecessarily repeated.

Homoeopathy, therefore, is a general fact,—a principle or law of nature; it is a practical fact; it stands upon its comparative merits; it is simple and intelligible; it gains by

comparison; it is a medical treatment for all time and applicable to all forms of disease, new as well as old. It is a practical guide, a guide to the choice of medicine, not of the dose. It aims to eradicate or permanently cure disease. It economizes the vital forces. It is gentle and agreeable. It administers one remedy at a time. It is applicable to acute, as well as to chronic, diseases. It is ever prepared to meet any new form of sickness, and by it a physician is enabled to treat diseases that he never saw or heard de-It carries out in detail what all medicine does in general.

While curative medicine is its specialty, preventive medicine always, and palliative medicine only, when no harm may be inflicted by the agencies is employed. Homoeopathy's principles will stand the test of scientific inquiry, her methods will bear the critical investigations—in fact, these are invited.

WHAT HOMOEOPATHY IS NOT.

Homoeopathy is not an irregular practice; it is founded upon a law. Twenty physicians were once called upon to prescribe for a case of illness. The same symptoms were detailed to each. Ten were homoeopathic physicians, and all prescribed the same remedy. Eight of the ten allopaths prescribed forty-two different medicines, in which no two prescriptions were alike. The other two did not respond to the invitation.

Homoeopathy is not unscientific practice. It is not opposed to pathology; it regards pathology, but not as a basis for treatment; it recognizes that a system of medicine, founded on the shifting sands of pathology, can not be scientific. It is not the "little pills." Homoeopathy was a working system long be-

fore little pills were invented; they are simply convenient vehicles for the pleasant administration of medicines. It is not quackery; quackery is secret and Homoeopathy is open to the world, and courts the fullest investigation of physician, student, and patron. It is willing to stand upon its merits, and it always gains by comparison. It is not a treatment according to fashion,-now anodynes, now germicides, now serums, now blue mass, now creosote, now sulphuretted hydrogen, antitoxines. The popular panacea of today, speeding to oblivion, supported only by the ephemeral theories of pathology, is no part of it. Its progress consists in a development of its Materia Medica and a better understanding of disease. It is not a faith cure; Homoeopathy, it is acknowledged, is eminently successful in children's diseases, and in childhood the faith element is small; also, it is successful in the treatment of animals, and here faith is want-While faith and hope in all cases of illness conduce to recovery, and are, therefore, most desirable, they are no more essential to homoeopathic practice than they are to any other medical system. It is not an uncertainty; those who have tried it at the bedside know this better than those whose knowledge is obtained from its antagonists. It is not an infinitesimal dose; this is a popular misconception, fostered diligently, and perhaps ignorantly, by the opponents of our system.

Similia similibus curantur says nothing of the dose. A homoeopathic cure may be, and is, often wrought with the massive doses of allopathy. Experience, however, shows that small doses act better and with less shock to the system. It is not magic, though cures made

by it would almost seem to border thereon, nor is it mysterious, nor a popular delusion, nor mesmerism, nor mental healing.

WHAT HAS HOMOEOPATHY DONE.

It has had a great influence in abolishing bleeding and leeches.

It has had a wonderful influence in reducing the size of the dose, even when administering drugs for the physiological effects.

It has kept the pendulum of drug annihilism from swinging off its pivot entirely.

It has had a wholesome effect on polypharmacy at least so far as the patient is concerned.

It has reduced the mortality rate in practice and institutional work as can be easily demonstrated from the reports of Cook County Hospital, of Chicago, where all schools practice.

The present status of Homoeopathy I quote from Doctor Sawyer, Superintendent of the Asylum of the Insane for the State of Ohio: "In the United States at this time there are, in round numbers, 15,000 doctors, registered, regulated, recognized homoeopathic physicians; numerically distributed proportionately over the entire United States, with a clientele of over seven millions of people who believe in it, who are in accord with the principles for which homoeopathists are working, who know by close observation and by personal experience of the benefits that come from the homoeopathic law." There are as many homoeopathic physicians in the United States as there are Methodist ministers.

We have ten colleges with an enrollment of over 1,000 students. Four of these colleges are departments of State Universities.

In our libraries we have more than

5,000 volumes strictly homoeopathic.

Thirty-five medical journals are now being published in our ranks, the purpose of all being to help professional men every where to alleviate suffering humanity and cure disease.

In fifty strictly homoeopathic hospitals 50,000 bed patients were treated last year, with a mortality rate so low that it compares favorably with any institution or group of institutions publishing reports. Here let me quote a sentence from Doctor Osler: "Nobody has ever claimed that the mortality among homoeopathic practitioners was greater than among those of the regular school."

A strong national organization exists with a membership of 3,100, of the most alert and well-trained men of our school. Many sectional, State, district, county, and city Homoeopathic medical societies exist. The vast majority of these societies are in better shape financially, numerically, and propagandistically than they ever have been since I have known anything about our school.

Now, let me close this paper with what Doctor Sawyer calls some of our wants in his exact words: "We want the laity to know that the homoeopath believes first and foremost in the removal of causes; that he is a broadminded, a generous spirited, a big hearted, a conscientious, moral, upright, straightforward man. These are the policies upon which he bases his practice, and we want all to know that all of his principles and characteristics are fortified by a specific law in medication, that puts him beyond question into the highest rank as doctor of medicine.

We want the world to know that homoeopathy does exist, that it is a specific principle, that it is living, that it is active, that it is energetic for the good of mankind; that it has improved from the time it was promulgated by Samuel Hahnemann, back in the eighteenth century, up to the present time, until it has finally become the surest, the most scientific and the best form of practice of medicine extant."

SURGERY OF PUS TUBES.

*By Robert Thrift Ferguson, M. D., Gaffney, S. C.

Surgery of pus tubes, like surgery of other purulent conditions exisiting in the human body, must be radical to give relief from suffering and secure the ends aimed at by operation.

In dealing with the subject of pus tubes we are dealing with a condition that is seen almost daily by a busy surgeon, hence the importance attached to this subject can not be overestimated. I believe I see diseased tubes oftener than diseased appendices.

In discussing pus tubes and their consequent injurious effects on the system it is well to consider the embryology, histology, anatomy, and pathology of the tubes in order to arrive at a definite conclusion as to the disastrous results accruing from this pathologic process. The fallopian tubes being formed by the upper ununited parts of the ducts of Muller are very delicate in structure, containing a mucous, submucous, muscular, and serous coat, the mucosa being lined with columnar ciliated epithelium to facilitate the passage of the ova from the ovary to the uterine cavity. The direct communication with the vagina through the uterus makes the passage of germs into the tubes easy. The anatomical location of the tubes at right angles to the fundus of the womb puts the tubes in a dependent position and as soon as any inflammatory condition takes place, closing the uterine end of the tube, the subsequent weight of the swollen and inflamed part causes it to sag and interferes with its normal circulation.

Infection of the tubes appears to be largely due to the gonococcus, and a microscopical examination of a large number of smears during my service in the gynecological department (free dispensary) of the University College of Medicine, Richmond, went to substantiate this. The walls of a tube containing pus are the walls of an ordinary abscess, consequently they are thickened and infiltrated with leucocytes, erythrocytes and pus cells.

Pus tubes are exceedingly common in both races, but occur with greater frequency in the negro race. Called to a case of pelvic pains in a woman with inability to stand or walk without pain, and a heaviness or bearing down in the pelvis, backache and tenderness in the right or left iliac fossa, a vaginal examination in a large per cent of these cases will discover a tube as large as your finger with numerous adhesions on one or both There is usually fever with sides. the acute cases and with the acute exacerbations in the chronic cases there is generally a slight rise of temperature.

I believe that an acute case of salpingitis demands an immediate operation, just so much so as an acute case of appendicitis, and a chronic case is always a fit subject for operation. In going over my records I

^{*}Prepared for the South Carolina Medical Association and read by title, Florence, S. C., April 14, 15, 16, 1914.

find that I have operated forty times for pus tubes, with recovery in every case. In the acute cases I was able to remove the tube before it ruptured and close the incision without drainage, while in the chronic cases where the tubes were ruptured prior to operation or during the process of breaking up adhesions and bringing the tube into the incision, numerous drains were inserted and patients put in Fowler's position. This position has doubtless saved many lives where purulent conditions existed in the abdominal cavity; and I invariably resort to it to facilitate the gravitation of pus into the pelvis. For the past year I have made it a rule to drain all cases for twentyfour hours, as I find that it makes me sleep easier when I am not certain whether a tube has been ruptured in bringing it up. The drains are made of iodoform gauze, rolled into a wick, and placed at the bottom of the culdesac of Douglas, extending up through the lower angle of the incision. If the temperature is normal in twenty-four hours after the operation and the abdomen is flat, the drains are removed and the wound strapped up until the ninth day, when the stitches are removed. If there is a rise of temperature, the abdomen slightly tympanitic, and the wound still draining, the drains are removed and replaced by shorter ones each day till drainage ceases. I give instructions to the nurse in charge to keep the patient on her back for the first twelve hours, after that they are turned on the side that is most comfortable, and this is usually the right side in cases where the appendix is also removed. I find that in cases where operative work is done on only one side the patient is more comfortable when lying on that side. Small doses of morphine

(Gr. 1-8 to 1-6) are given hypodermically, as a routine for the first twenty-four hours following all of my abdominal work, and longer where necessary. This is done, both to relieve pain and to keep the intestines quiet. My patients are given only hot water for the first twentyfour hours following operation, and only in exceptional cases is any food given until after the bowels have been emptied with oil on the second day. All liquid nourishment given in the first forty-eight hours following abdominal operations seems to produce more or less gas, and only makes the patient uncomfortable.

The majority of cases of pus tubes coming to the operating table are chronic, for the reason, that in an acute attack the patient usually wants to put it off, and when the acuteness subsides they feel as though they have put one over on the surgeon and you do not hear from them again for sometime, when the tubes are as large or larger than the thumb and they have gotten to the point where they can neither sit, stand, walk, or lie down in comfort.

There are many things to be taken into consideration in operations on the female adnexa, chief among which are the nervous symptoms occurring after removal of the ovaries. A large majority of these cases come to the operating table before forty years of age, and probably the greatest number are under thirty, and you can't tell until you open the abdomen and see the condition present exactly how much must be done to effect a A surgeon has to exercise great care in all cases, and especially so where the woman is without children and desires to become pregnant. There is no field in surgery where conservatism is demanded in the same degree.

OPHTHALMIA NEONATORUM—PRE-VENTION AND CURE.

*By G. A. Neuffer, M. D., Abbeville, S. C.

PHTHALMIA NEONATORUM is a purulent inflammation of the conjunctiva; occurring in the new born, at any time during the first week after birth.

This subject to me is one of vast importance, for the reason that statistics show that 30 per cent of the total blindness in the United States is caused by it. This is all the more pathetic because the disease is easily prevented, and is always due to lack of proper care of the child at birth. To grow up blind is a terrible affliction in itself and in the great majority of cases produces a charge upon the State.

I shall not in this paper undertake to discuss the etiology or diagnosis of this disease; the cause is still a matter of dispute, some holding that all cases are due to a gonorrheal infection, while others dispute this—the diagnosis is easy for if you ever see a case of it, you will not fail to recognize it.

What concerns us in this paper is the prevention and cure of this dreadful malady.

Prevention.—The prevention of this trouble is simple, and very easy to carry out. In addition to the ordinary cleanliness which should be observed in every case of labor—just as soon as the nurse has completed the baby's toilet, the attending physician should drop one drop of a nitrate of silver solution in each eye. This solution should be 10 grains nitrate silver to the ounce of distilled water. There should be a

State law requiring every physician to carry this solution in his obstetric bag, and to use it on every child delivered by him.

The nurse should be directed to use a warm solution of boric acid for cleansing the baby's eyes every morning.

Cure.—The cure of this disease requires prompt, energetic, constant, and assiduous treatment; to be kept up day and night—you must get to work at once, there is no time to lose—at the same time there is no treatment that gives more brilliant and gratifying results.

After trying various methods and drugs in the treatment of this disease I have settled on the one I shall now outline to you, and in its use I have met with universal success. Just as soon as I have a case of ophthalmia neonatorum to deal with, I proceed as follows: I apply a sixty grain to the ounce solution of nithan of silver to the conjunctiva of the eye or eyes, as the case may be; this I immediately neutralize with a solution of soda chloride, made by putting a teaspoonful of common salt in a glass of water.

This application is repeated once every twenty four hours, until I feel satisfied that I have the disease controlled. It is only in the extreme cases that more than two applications are necessary, more often one In addition to this I will suffice. direct one ounce of boric acid put in a quart of hot water, this to be kept warm, and used to keep the eye cleansed of pus, instructing the nurse or mother to wash the eves out with it just as often as any pus collects, no matter if she has to do it a hundred times a day. One drop of a one per cent solution of argyrol is dropped into the eye three times a day, as long as there is any pus, after

^{*}Read before the Third District Medical Association, Newberry, S. C., September 24, 1914.

that an astringent lotion is substituted for the argyrol. I also have squares of lint kept on a block of ice and applied over the eye constantly for forty minutes, rest with them twenty minutes, apply again forty minutes and so on. The treatment of this disease must be kept up day and night.

In conclusion I would again call your attention to the proper care of the baby's eyes at birth.

A PLEA FOR EARLY DIAGNOSIS AND TREATMENT OF "PERFORATIONS OF THE INTESTINES IN TY-PHOID FEVER" WITH RE-PORT OF FOUR CASES.

*By S. E. Harmon, M. D., Columbia, S. C.

TY EXCUSE for attempting to write a paper on "Perforations of the Intestines in Typhoid Fever" is because I have had some personal experience in my own work, as well as seeing a few cases with others. I have diagnosed and operated on three cases, with two deaths and one recovery. One of my cases being so very little disturbed, the symptoms so few and so very mild that it was so very liable to be overlooked until it was too late, stimulated me to try to get up something on this important subject. thought by calling attention to this condition; by reviewing the literature, the symptoms and the methods of diagnosis, as well as the treatment, that it may be the means of saving a few, if not many lives.

I find upon examining the literature of Perforation of the Intestine in Typhoid Fever that from one to three per cent of all cases have perforation, and a very small per cent of that number are ever diagnosed at the proper time, and that about ten per cent of all deaths in typhoid fever are due to perforation. One writer reports nineteen cases of perforation out of two hundred and sixteen cases of typhoid fever in one hospital. Doctor Haggard reported three cases, with recovery, in a paper in 1903, and declared that about twenty-five thousand people die annually in the United States from this condition alone.

I wish to emphasize just here that we may have peritonitis in typhoid fever without having perforation. by the transmigration of the infection through the diseased intestinal wall into the general peritoneal cavity, causing a general peritonitis, and unless the case is properly diagnosed and treated death ends the scene.

How, as physicians and surgeons, can we best care for our cases to lower this large death rate in this By studying each case condition? at every visit; by going over the case thoroughly, making a careful examination; by placing each case as far as possible under the direct care of a competent nurse, or some intelligent individual that will watch every symptom and advise the attending physician of any new sign or sympa tom that may arise from time to time. It is our duty to first instruct the individual in charge of each case what those symptoms may be, and to notify the physician at once so he may be able to see and study the case from the symptoms, and arrive at an early diagnosis with the idea in view of the life-saving possibilities of an early operation.

What are the symptoms and how are we going to be able to make an early diagnosis of perforation? By

^{*}Read by title before the South Carolina Medical Association, Florence, S. C., April 16, 1914.

studying each and every symptom that may arise, such as sudden abdominal pain, muscular rigidity with abdominal tenderness, with any vasomotor disturbance, shock, cyanosis, cold perspiration, sudden drop in temperature, increase in pulse rate, nausea, vomiting, inhibited intestinal peristalsis. Sudden abdominal pain, muscular rigidity with abdominal tenderness are three cardinal Sudden pain occurs in symptoms. about seventy-five per cent of all The attack may come on cases. suddenly or gradually with colicky pain, with abdominal muscular rigidity with tenderness, nausea, vomiting, increased pulse rate, increased respiration. Doctor Manges reports nineteen cases, fifteen coming on suddenly and gradually; abdominal pain in ten cases; pain and chill in two; pain and vomiting in two; vomiting alone in one; chill alone in one. Pain is the most important of all symptoms, being present in seventeen out of nineteen cases. Temperature fell in three cases; rose in nine, unchanged in four; not ascertained in three. Pulse fell in no case: rose in ten; unchanged in six; not ascertained in three. Respiration rose in ten cases; unchanged in six; not ascertained in three. Time of perforation usually from the first of second to end of third week. Doctor Manges, giving a list of his cases, found no perforation in the first week; five in the second; five in the third; three in the fourth; three in the fifth; one in the sixth; one in the seventh; not any in the eighth; one in the ninth. Two of my cases occurred in the second and one in the third; all sudden in onset and with pain.

The blood picture is very unreliable, though a differential count should always be had if possible, but

one should never rely on a blood count to make a diagnosis. That is we should never allow the blood picture to tip the balance. Manges' nineteen cases, leucocytes rose in seven; fell in three; unchanged in three; not ascertained in three. Doctor Osler calls attention to the advisability of counting the red cells, also estimating Haemoglobin to differentiate perforation from intestinal hemorhage. tor Sheppard calls attention to the blood pressure and says that a rise in blood pressure occurring in typhoid fever may be regarded as positive evidence of perforation and infection, although a stationary pressure is no indication that perforation has not occurred.

Selby says that the fall in blood pressure is only transitory and not found, because we do not see the patient at the time, the rise immediately following perforation being due to the beginning of peritonitis. Brown describes a dripping crackling sign; a very fine crackling rale was heard over the infected area, sounding very much like a fine crepitant rale. Second; a small area of tenderness in the right side which extended gradually toward the left. By turning the patient on the left side and allowing to remain in this position for half an hour found that the tenderness had extended two inches farther toward the left.

Wilson and Ross reported a case where the patient was nervous, restless and perspired freely eighteen hours prior to rupture. Asked the question if the ulcer in approaching the peritoneum would not produce a vasomotor disturbance causing these symptoms, also the initial pain was referred to the penis and remained there without being referred to the abdomen at all, took the position

that in all probability the perforation was in close proximity either to the ureter or the bladder. Causing this symptom, McKenzie says that if there is no abdominal tenderness wall flaccid, with liver dullness and flanks normal, one can rest assured there is no perforation.

There is no one symptom, or set of symptoms, that is conclusive. diagnosis must be made by the judgment of the attending physician following up and studying each case daily, by making a close study of the case at each visit, and studying every variation in the symptoms. We must make a diagnosis without having too many symptoms to guide us. It is far better to err occasionally, and in operating find no perforation, than to allow the case to go on in doubt until the symptoms are so clear that the patient has no chance at all of recovery. If we are in doubt, it is by far better to open the abdomen under local anesthesia and find out whether we have a perforation or not. If we have we can deal with it then; if we do not find a perforation and we have done our work well, we have not harmed our patient. Early operation is the only rational treatment for perforation of the intestines. There is no contra indication to operation, surgically speaking, save a moribund condition of the patient. We should operate just as soon as the diagnosis is made; in the first eight hours, if possible. The patient should not be moved any great distance to operate. It is better to operate where they are. With plenty of assistance one can very soon prepare a room for operation. Remember we have a septic case with lowered resistance that can not stand any great amount of disturbance. A good per cent of these cases can be handled under local anesthesia. One will be surprised how well they can be handled. Simply opening the abdomen, find the perforation; pull it out into view and wall it off with gauze. It is very much better to close the perforation, and should always be done, if it is practicable to do so. The incision is best made through the right rectus muscle. After getting into the abdomen we have in mind that eighty per cent of the perforations occur in the last eighteen inches or two feet of the Ilium. About twelve per cent are found in the large bowel, usually the coecum, and about five per cent in the appendix. This being the case we go at once to the Iliocaecal valve, find it rent, close it if it can be done easily; if not, pull it up near the surface, attach to the edge of the incised peritoneum with a couple of cat-gut sutures, as used by Escher, wall off with gauze so the bowel contents may drain out and not back into the general peritoneal cavity. Leguen utilizes the omentum to patch the perforation after suturing up the opening, also when there is a weak place in the intestines almost ready to perforate at some other point.

Lacompte advises damming off with a gauze wall the infected area, particularly when we have multiple openings near each other, or where we have suspected or about to be openings in the intestines. By early diagnosis and proper operating, followed by proper post-operative care and attention; by placing them in the Fowler position if advisable, and they usually stand this position well with the application of the Murphy Proctoclysis of plain water, we will be able to save from fifteen to fifty per cent, averaging about 33 1-3 per cent of our cases.

In conclusion, I desire to report

four cases: Three of my own and one I saw with a brother practitioner, as well as to give briefly my own method and technic of operating. Case one and two had the classical symptoms of perforation. They were both in private homes, without a nurse. I did not see them for several hours, not until the picture was so very clear that they were hopeless. I had them transferred to the hospital that was near. I opened the abdomen in each case and found the perforation, closed the rent, drained them and did everything possible, but it was too late; they both died. Case three was a male adult, about forty years old, at the Columbia Hospital, in the second week of a very mild case of typhoid fever. Temperature had been running from 99 to 101; pulse 70 to 100 during the entire course. At 2:00 P. M. with his pulse 80, temperature 99.3, respiration 16, he complained of a colicky pain in his abdomen and with it the nurse noticed that he became slightly evanotic, lips and finger nails slightly blue. I was called and saw the patient in about thirty minutes. Upon examination I found normal facial expression, free from pain, free from nausea, no vomiting, pulse 80; temperature 99.3; respiration 16, no tenderness or distension of abdomen, but some degree of muscular rigidity that we had not had before, with knees flexed. I am very sorry to say that I did not take his blood pressure. I made an effort to have the blood examined but failed at the time. I left an order that the patient was to have nothing at all, and for pulse, temperature, and respiration to be taken every hour, and if the pulse rate increased to be called. At 3:15 his pulse was 86. temperature 102, respiration 16. At

4:20 pulse 102, temperature 103 2-5, respiration 16. At 5:15 pulse 106, temperature 103 2-5, respiration 16. At 6:45 pulse 109, temperature 102, respiration 16, with considerable muscular rigidity, but not tender. From the above symptoms we concluded that the man had a perforation, and I very frankly told the patient what he had and advised an operation at once, to which he consented. At 8:45 he was carried to the operating room. Ether was administered, abdomen was opened through the right rectus muscle. perforation found in the Ilium. We found quite a considerable amount of intestinal contents free in the abdomen, and a large area of peritonitis. We closed the opening in the intestine with a linen mattress suture, which, I think, is by far the best suture for this work. I also re-inforced the closure by suturing the omentum over it. My reason for using this method was because, in operating on ruptured appendices and perforations from gun-shot wounds. I have often seen the wonderful work of nature trying to close up the opening with the omentum. I found, in looking up the literature for this paper, this same procedure was recommended by Leguen, which I was ignorant of at the time I operated. The abdomen was drained through a long stab wound in each flank. Also just above the pubis with the drain running well down into the pelvis. The original incision was closed by the layer The time consumed in the method. operation was a little less than an hour. The patient went on to an uninterrupted recovery without any post-operative hernia. This is the method I have followed for the last few years in all my septic cases, with good results.

Case Four. This is a case that had been running a mild typhoid course, pulse ranging from 100 to 110, never over 114, temperature 99 to 102, respiration never over 31, abdomen considerably distended. At 6:15 P. M. the evening before the perforation occurred, some time between 1:00 and 3:00 A. M., his temperature was 100.2, pulse 84, respiration 26, abdomen very much distended. At 9:00 P. M. pulse 84, temperature 100.2, respiration 26. Bowels moved at 9:00, 10:30 P. M., 12:00 and 1:00 A. M. At 3:00 A. M. the nurse found him in a cold sweat, pulse 120, respiration 40, temperature 96. There was a consultation over the case shortly after the nurse found him in the above condition. The result was that they did not think that there was a perforation, because the patient had not complained of pain at all. I saw the case some eight or ten hours afterwards, at the second consultation. The first consultant still contended that he did not think the man had a perforation. I disagreed with him and contended that the man did have a perforation, and advised an immediate operation under local anesthesia, which was done. Perforation was found, abdomen simply drained; patient was in a moribund condition and died several hours afterwards. My reason for reporting this case is to impress it on our minds that we can and do have perforations in typhoid fever without having any abdominal pain. This case had all the classical symptoms minus pain.

Remember there is a small per cent of perforations in typhoid fever without the initial pain, but we must be able to diagnose these cases anyway.

RENAL FUNCTION IN CONJUNCTION WITH URETERAL CATHE-TERIZATION.

*By William R. Barron, M. D., Columbia, S. C.

N DETERMINING the functional capacity of the kidney a careful selection of tests is the secret of obtaining the greatest amount of information from the smallest expenditure of time and energy. It is our duty to our patient to see how few tests will serve to make a perfect diagnosis, and not how many, often needless tests, we can subject him or her to. Only through familiarity with the reliability, value, and limitation of renal functional tests and the peculiarity and significance of their findings in the various types of diseases, is the most profitable selection of tests made possible.

Some tests are valuable for estimating total function, but can not be used in conjunction with ureteral catheterization. Other tests may be worthless for estimating total function, yet be valuable in conjunction with ureteral catheterization for estimating the relative functional capacity of right and left kidney respectively.

Usually total urea output for twenty-four hours gives us little information, yet when used in conjunction with ureteral catheterization, it gives us information as to the relative work done by each kidney because each kidney has the same amount of urea presented to it for elimination.

However, total urea, when found, persistently very low, after several successive twenty-four hour estimations, under normal dietary, would

^{*}Read before the Columbia Medical Society, November, 1914.

indicate a severe grade of renal disturbance.

Renal functional capacity is usually ascertained in one of two ways:

First, Tests of excretory capacity, from the quantitive estimation of the secretion of various substances in the urine, such as phthalein and diastase.

Secondly, Tests of retention, through the determination of the concentration of certain substances in the blood; cryoscopy, blood urea, and incoagulable nitrogen being the tests most employed.

Some tests afford more accurate information than others of like character: Example, phthalein furnishes the most accurate information obtainable from the group of dye substances.

Phthalein is a valuable guide to the surgeon in determining his surgical risks from the view point of kidney function following anesthesias in operations of all kinds, however, I wish especially to emphasize its value: First, in the surgical diseases of the kidney secondary to obstruction in the lower urinary tract: and, Secondly, in the unilateral and bilateral surgical diseases in association with ureteral catheterization. Patients with obstruction in the lower urinary tract from hypertrophy of prostate, stone, stricture, etc., are often the subjects of hydronephrosis, pyonephrosis, pyelonephritis, pressure atrophy, and the resulting changes in functional activity, and yet the urine output, urea and total solids might be practically normal in these cases, and these patients be on the verge of renal failure, which would surely be precipitated by an operation. Phthalein saves us from dreadful error here and differentiates severe renal damage from the slightest damages in these cases.

Treatment of these cases by an inlaying catheter or suprapubic drainage will often bring the phthalein from an inoperable per cent of elimination up to a perfectly safe per cent, in from one to three weeks, and and affords us safe surgical risks, when, without preliminary treatment, death would surely result from surgical intervention.

Doctors Roundtree and Geherty, in comparing the value of phthalein to other tests, used principally for excretory tests diastase, lactose and urea; and for retention tests, cryoscopy and blood urea. Of these tests urea and phthalein are the only ones applicable in conjunction with ureteral catheterization. Lactose suppression in hydronephrosis, pyonephrosis and pyelonephritis, renders it useless in these cases.

The prognostic significance of lactose in cases of urinary retention, as compared with chronic nephritis, is striking. The absence of glycosuria following lactose injection, or its elimination in mere traces in chronic nephritis, usually means a bad prognosis.

Diastase and urea are of about equal value, and are unreliable indices to renal functional capacity generally, but when persistently low, they have some prognostic significance.

A complete absence of diastase in urine seems to indicate a bad renal derangement, otherwise it gives little information.

In tests of retention Doctors Geherty and Rountree placed the normal blood urea at .55 grams of urea per litre of blood and -60 C. for freezing point. Follin and Dennis accepted .28 grams of urea per litre as normal. Other investigators place

the urea even lower. In cryoscopy a freezing point lower than -60 usually means serious involvement of renal function. The decreased freezing point of blood serum has not yet been worked out for a sufficiently satisfactory explanation. Blood urea is a more accurate guide than cryoscopy to renal condition and seems to afford an earlier indication of cumulative phenomena than does cryoscopy.

Blood urea and phthalein give very closely allied information. Where phthalein is normal, accumulative phenomena do not occur and there is no need to test for them. A decreased phthalein of serious import may sometimes be associated with normal, chemical, and microscopic findings.

Phthalein should always be employed with retention tests, for alone they may mislead us, as they do not not occur constantly or early in the presence of even marked renal involvement. Positive cumulative phenomena are of the greatest prognostic significance. A low phthalein with cumulative phenomena would be regarded much more seriously than a low phthalein without them.

In ureteral catheterization we should be informed on three phenomena: First, the total renal function without ureteral catheteriza-Second, the relative function tion. with ureteral catheterization; and, Thirdly, the absolute functional value of each kidney. Methylene Blue, Indigo Carmen, urea diastase and phloridzen have been used to determine relative function of the two kidneys for many years, but not until phthalein came into use could the total and absolute value be accurately determined. One kidney may be doing three times the work of the other, yet be incapable of assuming additional work or of carrying on sufficient work when needed, and it would require a total, relative and absolute estimation to determine this.

There are two things we should always bear in mind in ureteral catheterization lest they mislead us in our findings; these are: inhibition of function, and leakage around the ureteral catheter. A total estimation without ureteral catheterization will determine if inhibition has occurred at the time of the ureteral catheterization. The operator should always be mindful that trauma may produce inhibition.

To illustrate, we catheterize a patient and our pathological findings and decreased function on one side, under ordinary conditions, would demand a nephrectomy; yet the opposite kidney, while showing no pathological findings, might have, at the time of catheterization, an apparent dangerously low phthalein output; still if our total phthalein is normal we can feel sure that inhibition at the time of the catheterization has caused the low function from the good kidney and we need not hesitate to remove the diseased one.

Inhibition is not always equal on both sides, and under such conditions one is justified in accepting the phthalein or total urea from each side as the true index of the relative function of the two kidneys. Diastase, urea and total phthalein help us to decide just here, and it is here, that urea per cent has its most useful When leakage around the ureteral catheters occurs, and we know we can be again allowed to catheterize the patient, we should do this, using the Garceau Catheter for collection from one side and transvesical collection from the other kidney, and we can then be sure of accurate differential functions from the two sides; if, however, we can not again, for many reasons, be permitted to recatheterize a patient and use the Garceau Catheter, we must then depend upon the urea per cent, diastase and time of appearance of phthalein. The peculiar value of urea per cent and diastase have equal significance, but, when inhibition is absent and leakage occurs around the ureteral catheter, diastase is more reliable than urea per cent, because it is not so readily affected through dilution.

In cases demanding ureteral catheterization, when the total phthalein is found low, it is well to do a cryos copy of the blood serum or a blood urea determination. With the ureteral catheter in place, and the flow of urine established, and a sufficient quantity of urine collected from each kidney for microscopic and chemical tests; we then give, accurately, with a record syringe, 1 C. C. of phenolsulpho-phthalein intravenously, and note the exact time of appearance from each kidney, then wait fifteen minutes from the time of appearance of the phthalein for our first reading, and make a second reading for the excretion during another fifteen minutes. These separate readings from the two sides give us the functional index of each kidney as regards phthalein. Total urea estimations nearly always corroborate the findings of phthalein as regards relative function.

Where we have a normal kidney on one side and a diseased one on the other, demanding removal; it is easy enough to be sure of our ground after differential functional tests; however, we do not always have it so easy in bilateral diseases of the kidney. I wish to emphasize the great danger of infantile kidney in making a differential diagnosis, for the urine secreted by this kidney is normal in every respect, except quantity. Phthalein would, of course, be much reduced from such a kidney.

In pyelitis the renal function is practically normal, while in pyelonephritis it is decreased, depending upon the degree of nephritis. Phthalein enables us to select with considerable accuracy, cases of renal infection suitable for pelvic lavage. Pelvic lavage in pyelonephritis has seemed to do little good so far, but in simple pyelitis, where the pelvic walls have not undergone marked changes, lavage acts promptly and efficiently.

Functional tests reveal only the excretory capacity of the kidney. They do not by themselves make the diagnosis or settle the prognosis. Functional tests tell us what the kidney is doing at the time the test is made but do not indicate what the renal function will be a week later.

In determining surgical risks, we may sometimes be misled by the patient showing a good renal function, so we must always bring all clinical values into consideration, to reasonably determine that we can maintain as good renal function after operation, as is shown before operation. I here refer particularly to cases in which ascending infection is apt to occur following operation, such as prostatectomy.

In conclusion, let me say, functional tests are of great value, but should always be used in conjunction with careful clinical, microscopic, chemical and X-ray study.

SOME DIAGNOSTIC EVIDENCE SHOW-ING THAT AN EXPLORATORY OP-ERATION ON THE GENITO-URINARY SYSTEM IS NEVER JUSTIFIABLE; OR EVEN ALLOWING PERMANENT INVALIDISM OF THESE ORGANS IS VERY RARELY EXCUSABLE.

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OUBTLESS there are some present who will question this very broad assertion, but I contend and will endeavor to show; how, with the use of the newer instruments and methods, it is practically always possible to arrive at clear-cut, positive, conclusions in every case. We who limit our entire time to the practice of urology, or diseases peculiar to the Genito-Urinary system, have only very recently been able to claim that our work is the most exact and scientific of all the so-called specialties. Probably the one man who has done more to develop and distinguish this, now, strictly scientific branch, from the old "Quackish 'G. U. Specialist,' " meaning "Venereal Specialist," is Dr. Hugh Young of Johns Hopkins Hospital. And it was he, who I heard make the statement which I am using as my subject.

Venereal diseases, and the results of same, have been recognized and treated, both medically and surgically for many centuries. Medical prescriptions were recorded in the Papyrus of Ebers as far back as 1500 B. C. From then until now, over 3400 years, internal medicines have been used and probably with the same results as we get today, in the majority of our cases. The Hindoos, of India, about 1000 B. C., described perineal section for the re-

moval of stones, and also used wooden sounds for the dilatations of strictures. Scientific urology, however, did not have its birth until the first half of the nineteenth century, mainly through the development of chemical urinalysis, although as early as 1805, Bozzini, of Frankfort, used an apparatus for illuminating the urethra and bladder, which was the first, of a series, of crude attemps which has led to our present knowledge of the urethra and cystoscopes. It was only about fourteen years ago that our present cystoscopes for catheterizing both ureters were perfected. In 1910 the phthalein or functional kidney test was introduced by Doctor Geherty, of Johns Hopkins Hospital, and with these and the advancement of bacteriology, laboratory procedures, Xray work and modern surgical technic, the "Genito-Urinary Specialty" has made wonderful progress.

It may be of interest to quickly outline our present plan of procedure, describing the instruments and methods used: first, a very careful history is taken and a physical examination is made. A catheterized specimen of urine is obtained for chemical, microscopical and bacteriological examination, using, when necessary, cultures and Guinea-pig inoculations to isolate the infecting micro-organisms. With the catheter still in the bladder, the phenolsulpho-phthalein or functional kidney test is done in the following manner: Patient given two or more glasses of water to insure a free flow of urine; then one C. C. (which is six mg. of the phthalein) is injected either intravenously or into the lumbar muscles, the only difference being the vein takes only half an hour for collection of urine, while the muscle requires two hours.

^{*}Read before the Eighth District Medical Association, Batesburg, S. C., January 19, 1915.

time of injection is noted and by watching the urine as it drops from the catheter into an alkaline (sodium hydroxid) solution, you note the time of appearance of the phthalein, which is indicated by the brilliant red color, thereby determining the time required for the drug to pass into circulation and out of the kidnevs into the urine. Normally, by intravenous injection, it requires three to five minutes to appear, while intramuscularly, eight to twelve is necessary. The urine is collected for two fifteen-minute periods, from time of appearance, when injected directly into the vein, and for two, one-hour periods, when the muscle is the sight of injection. The normal function of the two combined kidneys is from 65 to 80 per cent, which is determined by a very simple colorimeter. From the results of above examinations, which is the total of both kidneys, we determine whether or not it is necessary to proceed with the next step of investigating each kidney separately, which is done by means of the cystoscope and the ureteral catheters. The catheterizing cystoscope is nothing more than an electric instrument for looking into the bladder and passing catheters into each ureter and kidney. By this means, we can determine the condition of bladder and outline vesicle orifice (which is prostate orifice in male) and can collect urine separately from each kidfor laboratory examination, ney thus determining what elements. normal or pathological, are present on either side. And by the phthalein thus collected, we can determine the relative, differential, functional, efficiency of each kidney individually. Catheters also may be used, with wax tips. which become scratched should they come into

contact with a stone in the ureter or kidney pelvis.

The Xray is indispensable to the Genito-Urinary worker, for it affords the most valuable information as regards the presence, size and location of stones; and substances as collargol, which throw shadows on the Xray plate, may be injected directly through the catheters into the ureter and kidney pelvis; thereby outlining these organs and showing any abnormalities of either, such as cavities or dilatations.

You have doubtless noted, I am discussing methods of examining the urinary and genital systems separately, although they are closely connected the one with the other. Certain conditions, as enlarged prostate, which is a genital organ, causes obstruction to the free, complete, empting of the bladder, which is a urinary organ. In diagnosing genital diseases, we use most of the instruments and laboratory methods as when working on the urinary system alone. In addition, we have the Wassermann and Luetin tests to help us clear up doubtful syphilitic cases, and the urethroscope enables us to diagnose and treat lesions of the urethra from the bladder to the meatus.

Aside from the acute venereal diseases of gonorrhoea, syphilis, chancroidal sores, etc., there are several conditions which must be diagnosed and treated very early if we hope for results, yea, if we hope to even prolong the very life of our unfortunate patients, and upon you, alone, my good friend, the general practitioner, must rest the full responsibility of an early diagnosis. I refer to cancer, especially cancer of the penis; and right here, you will be tempted to temporize, but view with deep concern, every sore on the penis of

a man over thirty-five years. Have Wassermann test, and examination for Spirochaete Pallida made at once, or perhaps give a therapeutic dose of "606," and if these are negative, consider seriously the advisability of removing a piece of involved tissue, and while patient is still on operating table, it should be examined for malignancy, and, of course, if found to be cancer, a radical adenectomy and amputation should be performed at once. I have had two such cases under my observation in the last month, neither of whom was ever able to retract his foreskin with ease. I might add in this connection, if you will practice circumcising all your cases who have difficulty in retracting their prepuce, you will be doing a great blessing by thus helping to eradicate this dread disease.

Chronic sexual neurasthenia (and also the infecting of many innocent, pure wives), may be prevented by properly and thoroughly curing all acute urethra and prostatic involvements. A gonorrhoea patient is never cured until his prostate and urethra are free from inflammatory reactions and sequelae, such stricture and pus in prostate, known as chronic prostatitis, for little by little, this pus exudes from the prostate and into the urethra, at, and around, the delicate, sensitive verumontanum, causing the worse form of intractable, sexual neurasthenia. Only by use of sounds, urethroscope, prostatic massage, using microsope to identify pus, can this condition be diagnosed and properly treated.

Prostatic hypertrophy or enlargement, is a pathological condition which should certainly always be kept constantly in mind, for by an early diagnosis and treatment, we have a most favorable prognosis, while delay only means a shortened life of untold misery and discomfort. The diagnosis is not made by digital rectal examination alone. though the finger be most educated, for frequently a marked intravesicle obstruction shows only a flat prostate on rectal examination. quite an enlarged, prominent, prostate posteriorly will not be interfering with the flow of urine at all. These men, usually passed middle life, will usually come complaining of frequent urination, especially at night. By the following method, in a very few minutes, your diagnosis is easily made. Ask patient to empty his bladder as completely as possible, and having your catheter already sterile, immediately pass it. If you succeed in getting more than an ounce of urine, you are probably dealing with obstruction, usually of prostatic origin. In this connection, of catheterizing to relieve a distension, be careful not to empty the bladder too Never draw more than quickly. twelve to fifteen ounces at one sitting, thus preventing hemorrhage from the bladder wall and ofttimes uremia. This residual urine is usually alkaline and shows pus. cystoscope will clear up the diagnosis by outlining vesico-prostatic orifice and tell the best route for removing this organ. This hinderance to freely empty the bladder by causing a damming back of infected urine on the kidneys, will soon destroy their usefulness, and in this connection, the phthalein functional test, decreasing the surgical risk by telling when to operate, has helped to save more lives than probably in any field of surgery.

In kidney infections you do not always have symptoms directly referable to the organ involved, and your attention is frequently first called to treat a secondary cystitis. Here again delays are dangerous, so don't lose too much precious time treating the bladder, which may apparently improve under your medicine, but investigate, and often, to your utter surprise, one kidney is completely destroyed by tubercular, colon, or some pyogenic infection, and even the patient herself has not suspected her true condition at all. Imbeded Calculi often destroys the kidney substance and function in very much the same symptomless way.

One or two cases will illustrate these points very clearly. Mr. H., referred by Doctor Guerry, age 54. About two years ago developed a gradual increasing frequency of urination, last February (1914), he was compelled to seek surgical interference. By this time, of course, he had a large amount of infected, residual urine in his bladder which he was unable to empty. The prostate obstruction was removed and the patient left the hospital greatly relieved, although he continued to have some slight irritation of the bladder, and a very indefinite discomfort in his left side, no real pain, however. Last October, after seven months, patient returned to the hospital still annoyed by irritable bladder, although the discomfort inside had practically gone. A catheterized specimen of bladder urine showed a large amount of pus and the combined function of both kidneys was 58 per cent phthalein. The Xray picture revealed a large mass in the right side, with no shadow of kidney on the left. You note at once this is the case with very few symptoms, who does his usual work every day, just complains of lassitude, and at times bladder irritability. of previous obstruction and operation already given. External exam-

ination negative. Bladder urine per catheter, shows pus, and by functional test kidneys are below normal, only 58 per cent. Now the questions which must be answered are these: What is causing the pus? what organ does it originate? Bladder or kidney? If kidney, is one or both involved? And to what extent is it diseased? Should it be removed? If so, has the patient another which is normal and able to sustain life by compensatory hypertrophy. The patient was cystoscoped and ureters catheterized. specimens collected showed normal urine coming from right kidney with 58 per cent phthalein, which you noted before was normal for this case, for it equaled the per cent which came from both kidneys. The left showed only a little watery pus with no phthalein.

Diagnosis.—Pyonephrosis or pus kidney, which proved to be correct at operation. This case illustrates not only the prostatic symptoms and how the kidney was infected and destroyed by back pressure, but also the method of diagnosis, and the serious questions which must be answered, and which can be determined only by the cystoscope and ureter catheters. In the days before the cystoscope was used, occasionally the wrong kidney was removed; for symptoms are untrustworthy and are frequently referred to the healthy side or some other part of the Genito-Urinary tract.

Mrs. B., age 36, is a case of kidney calculi with no symptoms suggesting that her urinary organs were involved, and also emphasizes the value of Xray.

Past History.—Negative, with the exception of an attack of kidney colic thirteen years previous. Pres-

ent illness: about ten days before coming to the hospital, while at Fair Grounds, patient experienced what she described as a "weak spell" with "palpitation of heart," became easily exhausted and nervous. No positive pain or symptoms were elicited, and examination revealed no pathological condition of any organ in particular. An Xray picture was taken of lungs and heart and happen to include the left kidney in its lower border, which showed suspicious shadows. Another picture was taken which confirmed the diagnosis of calculi in left kidney. This case was worked out, cystoscoped, and ureters catheterized, and had differential phthalein done, just as described in case reported above.

The accompanying report answers the following questions: What is the condition of left kidney? (the one which Xray showed to have calculi)? From its functional estimation by phthalein is it doing any work? Is it infected and should it be removed? Is there a right kidney which is

healthy and able to do compensatory work for its doomed fellow?

November 6, 1914. Columbia Hospital.

Examination of Mrs. B., referred by Doctors Guerry and DuBose.

Complaint.—"Pain in lower abdomen and tired feeling in back."

Xray shows shadow in region of left kidney.

Urinalysis.—Bladder urine, catheterized specimen: Acid, 1.010, Albumin positive, sugar negative, large number pus cells and granular casts, stained specimen negative for all organisms.

Right Kidney.—Urine per ureter catheter: Acid, 1.008, Albumin positive, no pus cells, or organisms, few casts.

Left Kidney.—Urine per ureter catheter: Neutral, Albumin positive, great many pus cells, no casts or tuberculosis.

There were stained specimens examined from each kidney and bladder, no acid, fast organisms observed.

Phthalein given intravencusly, ureters catheterized.

| Right | Left. | Bladder. |
|--|-----------------------------------|-------------------------|
| Time appeared 2 minutes 1st 15 minutes 35 per cent 2d 15 minutes 18 per cent | Never appeared. None. None. | None. None. None. |
| | | |
| Total 53 per cent | None. | None. |
| Urea 1.5 per cent | None. | None. |

Remarks.—The right kidney is certainly functionating to a compensatory degree, the left kidney is not doing any work at all (no phthalein excreted in over half hour.) No micro-organisms observed, therefore, infection does not seem to be playing an important part in the destruction of kidney substance and function. Kidney was removed and showed a large calculi entirely filling the kidney pelvis and several small calculi in the different calcices.

In concluding I want to emphasize the following points:

First. The possibility of obtain-

ing early, clear-cut, positive, diagnosis in 99 per cent of all Genito-Urinary disorders.

Second. Remember that symptoms, referable to the urinary organs, no matter how trivial or unimportant they may seem, frequently point to a serious pathological condition which can only be determined by a careful history and physical examination, followed by a thorough and minute investigation.

Third. The favorable prognosis by early treatment, contrasted with the shortened life or discomfort, caused by delayed diagnosis or improper treatment.

Fourth. Regard with deep concern and suspicion, every lesion on penis of patient over 35, remembering that an early diagnosis and operation is the only successful treat-

Fifth. Frequent urinating is always pathological, and should not be regarded lightly. In a man over 40, investigate the prostate and catheterize for residual urine. Of course, always, having a careful urinalysis made, especially with reference to

Finally, never be satisfied with the diagnosis of Neurasthenia, for by regarding every case as serious until proven not to be, we will save ourselves untold embarrassment, and the patient from a life of misery. To these unfortunate sexual cases, who should arouse our sympathy and pity, let us be just, be true, be fair, to these patients everywhere, their complaints are many, but remember,

some diseased organ is to blame. SOCIETY REPORTS

ANDERSON.

Anderson, S. C., January 1, 1915. Dear Doctor:

A new year opens up to us; a year of opportunity, a year during which we can not stand still, we must either go forward or retrogress. The European war has cast a gloom over our country. Its effects have been stamped on business men and professional men alike. As physicians, many of us will enter upon the duties of the new year with discouragement over our collections. There may be a disposition to relax and do less work. What a mistake if any of us should pursue such a policy. Never has there been a time when there was a greater need for loval support among our members. It behooves us, therefore, to make a spe-

cial effort to make this year the best the Society has yet seen. This can not be done by a few but every member must stand together in order that we may accomplish what ought to be done. May we not have co-operation? Won't you come regularly, and come feeling that you have an essential part to perform?

Our first meeting for the new year will be held in the Anderson County Hospital, Wednesday, January 6, at 12:00 o'clock. At this meeting we hope to have a general discussion of plans by which our Society may be benefitted throughout the year. Will you not bring some suggestions with vou?

The following program will be carried out:

1. Importance of Statistical Reports as Required by State Board of Health.—Doctor Young.

- 2. Public Health Service.—Dr. W. H. Nardin.
- 3. The Relation of the Hospital to the Anderson County Medical Society.—Dr. E. A. Hines.
- 4. The Physician and His Relation to the Public.—Mr. R. S. Ligon.

A turkey dinner will be served at the Hospital.

Very sincerely yours,

B. A. HENRY,

President.

The above letter sent out to each member of the Anderson County Medical Society by the new President, B. A. Henry, accounts, in part at least, for the full attendance at our first meeting of the new year, despite the regular downpour of rain we were having at the time. On account of the dreadful condition of the roads in the county, owing to the recent rains, very few of the members from the country could be present.

The meeting was called to order by the retiring President, Doctor Ashmore. After the reading and adoption of the minutes of the last meeting a discussion as to where we should hold our meetings during the year was entered into. It being decided that it would be best for these to be held in the lecture room of the nurses home at the hospital.

A committee was appointed to draft resolutions of respect for Dr. W. T. Hunt, who has recently died.

Mr. F. M. Burnett, in behalf of the Anderson Relief Association, appeared before the Society, explained the work this Association is trying to do, and he asked the co-operation of the physicians. This movement was heartly endorsed by the Society.

The new President, Doctor Henry, was now called to the chair. He

made a most eloquent address in which he earnestly urged each and every member to work harder this year for the good of the Society than he had ever done before. He showed us that not only the Society needed us but that we needed the Society more. When Doctor Henry had finished his speech I am sure that each member present must have resolved to work harder than he had in the past toward the upbuilding of his Society.

The program as above was entered into: Doctor Young made us understand more clearly the vital importance of the registering of births and deaths. In fact, there was a prick of our conscience to realize that such an important question had been disregarded for so long.

Doctor Hines gaves us a most interesting talk and one that all enjoyed.

The paper of Doctor Nardin was one of the best we have had before the Society. He presented the duty of the physician to public health in a clear and concise manner, and in a way in which all of us were made to feel that we had not always done what we could along this line. We hope to have this paper published in The Journal.

Mr. Ligon, who is often called the father of the Anderson County Hospital, and who loves and works for it as no one has done, gave a most excellent talk.

At the conclusion of the program all were invited into the dining room where a turkey dinner was served by the Hospital Association, in honor of Doctor Hines, who has recently come among us as Superintendent of the Hospital. All certainly enjoyed this dinner to the fullest extent, as well as the after-dinner toasts made

by Mr. Ligon, Mayor J. H. Godfrey, Mr. Burnett, Mr. Smoak, and Dr. J. B. Townsend.

OLGA V. PRUITT, Secretary.

COLUMBIA.

The Columbia Medical Society held its monthly meeting December 14th, 1914. Twenty-eight members present.

PROGRAM.

Paper—"Renal Function in Conjunction With Ureteral Catheterization"—Dr. W. R. Barron. Discussion by Dr. Geo. Bunch, Dr. C. L. Kibler, Dr. Heyward Gibbes.

Clinical Reports—Dr. Heyward Gibbes and Dr. R. W. Gibbes, demonstrated a case of suspected lymphosarcoma in an adult male. The lesion being located over the sternum.

Dr. Julius Taylor gave an interesting account of his visit to the Southern Medical Association, at Richmond, Va., Murphy Clinics, in Chicago, and the Mayo Clinics, in Rochester.

Dr. S. E. Harmon, Dr. C. L. Kibler and Dr. LaBruce Ward gave instructive talks bearing upon their visit to the Southern Medical Association.

The following officers elected for 1915:

President—Dr. P. V. Mikell.

Vice-President—Dr. J. H. Taylor. Secretary-Treasurer—Dr. Edythe Welbourne.

Board of Censors—Dr. J. H. Taylor, Dr. Lindsay Peters, Dr. LaBruce Ward.

Delegates to State Association—Dr. F. A. Coward, Dr. LaBruce Ward, Dr. Geo. Bunch, Dr. T. M. Du-Bose, Jr.

EDYTHE WELBOURNE, Secretary.

LAURENS.

The Laurens County Medical Society met in Laurens on January 25th, in the office of Dr. C. P. Vincent. About twenty physicians were present.

No papers were read, the meeting being a business one, and to elect officers for 1915. The election was as follows:

President—Dr. W. H. Dial; Vice-President—Dr. C. P. Vincent; Secretary and Treasurer—Dr. J. M. Bearden; Reporter—Dr. J. L. Fennel. Delegates to the State meeting in Greenwood were elected as follows: Dr. W. D. Ferguson, of Laurens, and Dr. T. L. W. Bailey, of Clinton. Alternates—Doctors Vincent and Fennel.

Drs. J. D. Austin and T. L. W. Bailey will read papers of their own selection at the March meeting, fourth Monday afternoon.

J. L. FENNEL, Reporter.

MARLBORO.

The Marloro County Medical Society met in Bennettsville, Thursday, December 3, 1914. Several interesting cases were reported and discussed. The following officers were elected for the ensuing year:

President—Dr. C. R. May, Bennettsville.

Vice-President—Dr. L. B. Salters, Blenheim.

Secretary and Treasurer.—Dr. D. D. Strauss, Bennettsville.

D. D. Strauss, Secretary.

SPARTANBURG.

The Spartanburg County Medical Society held its first regular meeting for the year 1915 on January 29th, Doctor Lindsay presiding. A large number of the members were present and we were pleased to have with us four guests, Dr. C. B. Earle, of Greenville; Doctors Grimm and Tanner, of the U. S. Public Health Service, and Doctor Jackson, Health Commissioner.

This was the best meeting the Society had held for many months, and the officers hope that this is just the beginning of many interesting meetings of the Society. Drs. D. L. Smith, Baxter, Haynes and Jackson discussed their recent case of cerebro-spinal meningitis, and Doctor Cudd reported a case of thrombosis in both legs, both of these cases were very generally discussed.

Doctor Earle was called upon and made a short talk, and as Councilor was very much pleased with our successful meeting.

> L. Rosa H. Gantt, Secretary.

SUMTER.

The Sumter County Medical Association met January 7, 1915, in regular session at the office of Dr. E. R. Wilson. There were present Doctors Holman, Mills, Cheyne, Burgess, Wilson, Stuckey, Epps, Lemmon, Parlor, Littlejohn, and Baker.

Meeting was called to order by Doctor Wilson, the retiring president, and the minutes of the December meeting read and approved. President Wilson stated that he was not prepared with his retiring address at this time, but would deliver it later. The old officers then gave way to those newly elected. In the absence of the president, Dr. A. C. Dick, Doctor Holman, Vice-President, took the chair, and Doctor Baker, the Secretary's desk.

Under the head of Clinical Cases:

Doctor Cheyne reported the case of a man who was suffering with consolidation of a small area of the Patient had been told that he lung. had tuberculosis. He had lost weight from 200 to 160 pounds; had slight expectoration; suffered from sleeplessness, loss of appetite, and pain over consolidated area. After close questioning, Doctor Cheyne succeeded in eliciting a syphilitic history, eighteen years back. had Doctor Wilson to examine patient's throat, and he found evidences of syphilis; so came to the conclusion that the trouble was probably due to an infarction. At time of initial lesion, patient had been given ordinary anti-syphilis treatment. He had a child born after infection, and it seems healthy. gave patient Neosalvarsan six weeks ago. Since then the patient has gained thirty pounds in weight, and other symptoms have improved. area has almost disappeared. will give other infections and will report progress of the case to the Society later on. He put patient on nourishing diet, milk, eggs, etc.

Doctor Wilson said he had found evidences of old lesions in the case. Patient had been infected eighteen years ago, and was given Mercury and Iodides. This case shows how late lesions will turn up.

Doctor Stuckey said that it used to be an aphorism of Dr. F. P. Porcher, of Charleston,-"When in doubt, give Iodides."

Doctor Holman wished to know if Salvarsan is not more efficacious than Neosalvarsan. The latter is, of course, easier to give. He thinks Doctor Cheyne might have given the second dose earlier. He knows of a case treated by Doctor Martin, of

Hot Springs, and he gave Salvarsan every nine days. Doctor Martin claimed that we should always have a reaction after the administration,—bowel movements, fever, etc.

Doctor Wilson: According to Doctor Martin, if patient has syphilis, he shows a reaction, and the severer the reaction, the longer he keeps up the administration. Doctor Wilson sees no advantage in Salvarsan over Neosalvarsan.

Doctor Lemmon: When it was first used, all doctors got a reaction, but experience in its use seems to lessen the reaction. There is a Lentinski test for syphilis (Mulford) now used, and it will be a great help to us here where we are not prepared for the Wassermann test.

Doctor Cheyne: Has no faith in Wassermann reactions. He has seen cases in the pustulor stage reported negative. We resort to it in a poll parrot way, but I don't feel that it is a conclusive test. I have seen three failures in three days.

Doctor Burgess reported a case of Riggs disease,—Pyorrhoea Alveolaris. He saw the case with Doctor Weinberg in his dental office. They used the so-called specific treatment, rhoea, except the Emetin injections. tive principle of Ipecac) into the puspockets around the roots of the teeth, and the case was well in five days. The amoeba was found present in the pus.

He also reported a case of a negro man circumcised three years ago for supposed chancroid, but the ulceration continued, eating back till it destroyed the penis and gluteal folds. Patient has had twelve doses of Salvarsan. Throat is very sore, he has a fiery red tongue and lips. Case looks like pellagra. He has used Mercury and Iodides, which tear up

the stomach and salivate the patient within four days. On one occasion he had failed to get the Salvarsan into the vein, so he injected it into the muscles. It is his rule to prepare patient before giving Salvarsan by opening up the bowels and giving no breakfast the day of administration.

Doctor Wilson asked if any other treatment was used for the pyorthat is, the injection of Emetin (ac-

Doctor Wilson said no, that it has been found now to be the same amoeba that causes dysentery, and Emetin was specific. He gave onehalf grain subcutaneously every day.

Doctor Parlor saw a notice of this treatment in the journals sometime since. They say, get all the teeth clean, and then use Emetin. He has used it on a patient, and he is improved. Some advise injecting one-fiftieth of a grain into each pus pocket, and a hypodermic of one-half grain subcutaneously every two days.

Doctor Parlor reported a case of Tetanus. Saw a negro stuck in the foot with a pitchfork, later he developed convulsions. Gave him injections of antitetanic serum, three to five thousand units intravenously for five days. He improved from the first. He also injected some of the serum into the course of the sciatic nerve.

Doctor Epps has had two cases of Tetanus lately. One recovered and one died. He will get up the data for the next meeting.

Doctor Mills attended a case of labor last Sunday. The os was dilated to size of a silver dollar. Had been in labor twelve hours. Pains were small and apparently dying out. He gave an injection of pituitrin, and before he could cross the room and put down the syringe the pains

were coming on in force and patient was delivered in thirty-five minutes.

Doctor Parlor asked if any one had noted high blood pressure after pituitrin. He frequently gives H. M. C. followed by pituitrin. It cuts down his time at the house to one-fourth. He has taken blood pressure after pituitrin and has found no change. He would use it in uraemic convulsions.

Doctor Parlor reported a case of compound fracture of both bones of the leg in an old negro man (James Bradley). He was cutting down a tree, when it fell and broke his leg at the ankle. Both bones protruded, for six inches, and stuck into the mud. Cleansed it as best he could. reduced it, and put on temporary splints, expecting to have to amputate next day. But Mr. Anderson, upon whose place the negro lived, said, "Don't you think a dead negro is better than a one-legged negro on my place? Let his foot stay on." So he put on a plaster splint with a Patient lived some diswindow. tance away, and doctor was busy with other matters, and did not see him for ten days. When he went back, found dressing displaced and wound chock full of magots. Cleansed it out with bichloride. whole interior of the wound looked in good condition—no pus, no debris. Looked like a granulating surface. I put up the wound again, and instructed them to notify me if trouble occurred. When next I saw the man. six weeks later, he came walking into my office on two good legs, the broken one a little shorter than the The magots had saved it.

He saw another case with one eye riddled with shot and frontal sinus penetrated. It was infested with magots. I cleansed them out thoroughly, and it healed without trouble. I have since wanted to try the effect of magots in a compound comminuted fracture. Magots seem to eat up the dead necrotic tissue, and destroy bacteria and breeding ground. If you castrate a hog and turn him loose, and later you find the wound filled with magots, you will discover that the hog makes a good recovery after cleansing.

Doctor Burgess recalled his case of Caesarean Section reported a year The case was in a or more ago. dirty negro hut, some distance in the country. Wound was closed throughout with catgut. Later it burst open and became infected with magots. Magots came out of incision in uterus, and from among coils of intestines. He cleaned them out with creolin, and the patient recovered, though she has had an abdominal hernia.

Doctor Epps saw an indolent ulcer of the leg filled with magots. He cleaned them out and the ulcer healed.

PAPERS.

Doctor Mills read a paper on the diagnosis of diseases of the stomach, with special reference to chemical examination of stomach contents after eating a test meal.

Doctor Littlejohn read a paper on the microscopic examination of the stomach contents and the diagnostic indication therefrom.

DISCUSSION.

Doctor Parlor is glad we have started along these special lines. He finds aspiration of stomach contents more difficult than Doctor Mills, however. He finds that many stomach cases are nervous cases. They insist on eating Force, Grape Nuts, etc., and nearly starve to death. He makes them eat good, nutritious food, and they do better.

Doctor Burgess had read Forsheimer, who speaks of the "offending appendix" and the gall bladder—the effects of fast eating and of alcohol, etc. He doesn't think much of gastric analysis.

Doctor Cheyne: The reading of these papers shows that the men who do the work must have special training. We, the practitioners, must have exact knowledge. We can get this in Sumter, now, and we must.

Doctor Stuckey: Indiscretions in diet have much to do with the development of these troubles. I, myself, had a cough from indigestion. I had my throat examined, and there was nothing wrong with it. I didn't know what was the matter. Finally I decided that it was all due to my stomach, and reflected to my throat. I quit drinking water at meals, which I had done a great deal, and drank milk. After this I got better.

Doctor Burgess for many years could not eat ham and cabbage. Thinks it came from a crooked septum.

Doctor Lemmon was glad to hear these papers. It is important as an aid to the profession here in Sumter. We need accuracy, and we ought to encourage these men who are taking up these specialties.

Doctor Wilson read a letter from the legislative committee, submitting a budget of expenses for the health department for the ensuing year, and asking the assistance of the Society in securing the necessary appropriation by the legislature.

The matter, on motion, was endorsed by the Society, and referred to the County Association legislative committee, consisting of Doctors Wilson, Stuckey and Lemmon. On motion, it was decided to invite the Lee County Medical Society to meet with us at our regular meeting the

first Thursday in February, the Secretary to make necessary arrangements. The hour of meeting was set for 3:00 P. M.

The subjects assigned for next time were:

Importance of Thorough Postmortem Examination, With Dissections, at Coroner's Inquests.—Dr. C. J. Lemmon.

Tetanus: Its Prevalence. Experience With Antitetanic Serum in Its Treatment.—Dr. Carl B. Epps.

Inflammatory Rheumatism (?). Its Causes and Sequellae. The Modern Treatment.—Dr. S. C. Baker.

There being no further business, the meeting adjourned to the restaurant, where supper was served.

> S. C. Baker, Secretary.

SUMTER.

The regular monthly meeting of the Sumter County Medical Association was held yesterday afternoon, and, besides a large attendance of the members of the local Association, there were present, as invited guests, the members of the Clarendon and Lee County Medical Societies.

A number of interesting clinical cases were reported and discussed by the physicians present. One subject which elicited considerable interest was the recent report of Doctor Herring upon his investigation of the State Hospital for the Insane, at Columbia; and, growing out of this, the following resolutions were unanimously adopted:

RESOLUTIONS.

We, the members of the Sumter County Medical Association, in joint meeting with the members of the Clarendon and Lee County Medical Societies and other visiting physicians, have read with interest and approval the report by Dr. A. P.Herring, of Baltimore, upon his recent investigation of the State Hospital for the Insane, at Columbia.

We do most heartily endorse the plans therein outlined for the remodeling of the buildings and placing them in an up-to-date and sanitary condition. We also approve of the plan to increase the attendant staff, and to have the choice of the Superintendent of the Hospital vested in the Board of Regents, and of all other steps looking to the removal of the affairs of the institution from the realm of partisan politics.

Now, therefore, be it resolved, by the physicians here assembled:

That we petition the General Assembly, now in session in Columbia, to enact such legislation as will promote the speedy carrying out of Doctor Herring's suggestions.

That the Secretary of the Associa-

tion be instructed to forward a copy of these resolutions to the Governor, to the presiding officers of the two houses of the General Assembly, and to such committees of that body as will have the matter specially in charge.

Following this, Dr. C. J. Lemmon read a paper upon "The Importance of Thorough Post-mortem Examinations, With Dissections, at Coroner's Inquests." Dr. Carl B. Epps read one upon "Tetanus: Its Prevalence; Experience With Antitetanic Serum in Its Treatment." A paper was read by Dr. S. C. Baker upon "Inflammatory Rheumatism (?). Its Nature, Causes, and Sequellae. The Modern Treatment." All these papers elicited lively discussion.

At the end of the meeting a buffet lunch was served, and the Society then adjourned to meet on the first Thursday in March.

S. C. BAKER, Secretary.

BOOK REVIEW

MEDICAL JURISPRUDENCE.—A statement of the Law of Forensic Medicine. By Elmer D. Brothers, B. S., LL. B. Member of the Chicago Bar; Lecturer on Jurisprudence in the Medical and Dental Departments of the University of Illinois, and in John Marshall Law School. St. Louis. C. V. Mosby Co. 1914.

Most of the works on Medical Jurisprudence have accumulated dust on the shelves of the busy doctor because they have been too exhaustive and few, but experts, ever read them. Here is a book which meets the demand for a practical resume of the subject, of only 300 pages. The Author is a lawyer of wide experience at the Chicago Bar and Professor of this subject in the University of Illinois, and in John Marshall Law School. Frequently the general practitioner, and sometimes experts, ap-

pear at a great disadvantage in the court room, and this book will prove invaluable to prevent such embarrassment.

THE TONSILS-Faucial, Lingual, and Pharyngeal. With some account of the Posterior and Lateral Pharyngeal Nodules. By Harry A. Barnes, M. D. Instructor in Laryngology, Harvard Medical School; Surgeon in the Department for Diseases of the Nose and Throat, Boston Dispensary; Assistant Laryngologist, Massachusetts General Hospital; Member New England Laryngological and Otological Society; Member American Laryngological, Rhinological, and Otological Society. Illustrated. Louis. C. V. Mosby Company. 1914. This is by long odds the most important monograph on the subject that has come to our desk. The book is not by any means simply a compilation. The Author has given us considerable research work and with his connection with the Harvard Medical School his material has been enormous. The illustrations are all original and are very good indeed. We feel that it is a book well worth purchasing by either the general practitioner or specialist.

QUESTIONS OF THE STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA, NOVEMBER, 1914.

Dr. E. W. Pressly, Examiner.

Obstetrics.

- 1. Describe the gross anatomy of the uterus at the close of pregnancy.
- 2. Bound the plane of inlet and the plane of outlet of the pelvis, and give the name and length of each of the diameters of each of these planes.
- 3. What in the human female, is the ordinary duration of pregnancy, measured in days; what its maximum legal duration, and how is the probable date of its termination to be calculated?
- 4. In what way does the blood of the pregnant female differ from that of the non-pregnant?
- 5. What is the most common form of nephritis in pregnancy, and how may it be known from an albuminuria with oedema pedum dependent on an interference by pressure with the return circulation?
- 6. Given a woman previously menstrually irregular with an abdominal enlargement reaching the umbilicus, differentiate between a fibroid tumor, an ovarian cyst, and a pregnancy at the end of the fifth month (foetal heart-sounds supposed to be unheard).
- 7. Summoned to a woman eight months pregnant, seized with a sudden hemorrhage appearing externally at the vulva, name the possibilities to be considered, differentiate between them, and give treatment for whatever condition you diagnose.
- 8. Define version, give its varieties, indications for its performance, dangers arising from its performance, and the method of performing one of its types.
- 9. Give the etymology of the word forceps, the use of the instrument, the indications elective and mandatory for their

- use, and the rules to be observed in their use.
- 10. Given a parturient with moderately contracted pelvis, C. V. 8.5 to 9 Cm., with head trying to engage in superior strait, but still movable, labor not advancing, give the argument in favor of the use of (a) the forceps; (b) version for terminating the labor.
- 11. Give an example of a compound presentation. How is it usually caused, and how should it be managed?
- 12. What are the causes, symptoms and prognosis of rupture of the uterus, and in case this accident happens how should it be managed?
- N. B.—Answer either two of Questions 1, 2, 3, and 4. Answers are required to each of the remaining eight.

Dr. H. L. Shaw, Examiner.

Materia Medica-Junior Curriculum.

- 1. Give dose and therapeutic effect of Ammonium Chloride, Bromide of Sodium, Chloral Hydrate, Sulphate of Codeine, Sodium Salicylate.
- 2. Name the more important preparations of Arsenic and give dose of each.
- 3. Name two Hypnotics and dose of each.
- 4. Name the more important preparations of Opium and give dose of each.
- 5. Give the mode of administration, therapeutic effect, and dose of tincture of Veratrum viride.

Therapeutics-Senior Curriculum.

Mention drugs you would use in treating the following diseases. Give dose, frequency and therapeutic effect. If other than drugs used mention mode and manner of administration:

(1) Membranous Laryngitis (2) Broncho-pneumonia (3) Scarlet Fever (4) La-Grippe (5) Pleurisy (6) Erysipelas (7) Ptomain Poisoning (8) Acute Mastitis (9) Parotiditis (10) General Anasarca due to cardiac insufficiency.

Dr. J. J. Watson, Examiner.

Practice of Medicine.

1. Describe a case of Huntington's chorea.

- 2. Give the causes, symptoms and physical signs of pericarditis.
 - 3. How are pulmonary cavities formed?
- 4. What physical signs indicate the presence of pulmonary cavity?
 - 5. Mention the causes of Hematemesis.
- 6. A man 45 years has a general convulsion. What diseases would you consider in arriving at a diagnosis? Briefly give their diagnostic differences.
- 7. Describe a case of kidney colic, and state its possible terminations.
 - 8. Describe a case of acute laryngitis.
- 9. Give a clinical history of a case of Lobar Pneumonia, occurring in a man 20 years old, who recovers; stating the pulse rate, blood pressure, respiration rate, and temperature that you would expect him to have.
 - 10. Describe a case of Uticaria.

Dr. John Lyon, Examiner.

Bacteriology and Pathology—Junior Curriculum.

- 1. Give the law, as enunciated by Koch, of determining the specificity of a microorganism.
- 2. Describe the usual method of making a laboratory diagnosis of diphtheria.
- 3. Give the technique of Widal's serum diagnosis of typhoid fever. Of what value is the reaction?
- 4. Describe the changes that occur in the lung in lobar pneumonia.
 - 5. Give the pathology of typhoid fever.

Gynecology—Senior Curriculum.

- 1. Give the causes and treatment of subinvolution of the uterus.
- 2. Give the causes and treatment of dysmenorrhoea.
- 3. Give the usual clinical history and symptoms of cancer of the uterus.
- 4. Describe the technique of an operation for a lacerated perineum. Give also the management of the patient before and after the operation.
- 5. Give the causes and treatment of pruritis vulvae.

Pediatrics.

6. Give the symptoms of scarlet fever. What are its most common complications and sequelae?

- 7. Give the early symptoms of, and treatment for, hereditary symphilis.
- 8. Write a formula for home modification of cow's milk for a healthy baby three (3) months of age. What are the relative merits of modified cow's milk and proprietary milk foods?
- 9. Give the symptoms, etiology and treatment of thrush.
- 10. Give the etiology, symptoms and treatment of sporadic cretinism.

Dr. J. T. Taylor, Examiner.

Anatomy-Junior Curriculum.

- 1. What fingers are supplied by the ulner nerve?
- 2. What bones enter into the formation of the orbit?
- 3. Name from above downward the branches of the abdominal Aorta.
 - 4. Name the bones of the foot.
- 5. Name the muscles forming the calf of the leg.

Senior Curriculum.

- 1. What cranial nerves are most often disturbed in injury of the skull.
- 2. In what lobe of the brain is the visual area?
- 3. Locate Stenson's duct. Where does it empty?
- 4. Show by diagram the regions of the chest.
- . 5. Locate anatomically, the point of election for doing a paracentisis thoracis.
- 6. Give the anatomical reason why an operation upon the right kidney is more liable to be accompanied by serious hemorrhage than the same operation upon the left kidney.
- 7. Name the coverings from without inward of an oblique ingunal hernia.
- 8. Why is an abscess liable to occur in the broad ligament following a puerperal septic infection involving the fundus of the uterus?
- 9. Locate the point of selection for doing a lumbar puncture and give the reason for this selection.
- 10. At what point does a psoas abscess most frequently approach the surface, why is this true, and what accident is to be avoided in incising it?

Dr. Harry H. Wyman, Examiner.

Surgery.

- 1. Give local and constitutional symptoms of inflammation including blood furnishings.
- 2. What conditions in an injury to a limb would justify an amputation. In an injury to a hand demanding amputation of any part of it what should be your invariable object?
- 3. Give structures damaged in, symptoms and treatment of Colles' fracture of radius. What causes the typical displacement
- 4. Give symptoms of suppurative inflammation of gall bladder and bile duct. What other diseases may it be mistaken for. Outline treatment.
- 5. Give in detail the operation of draining a pelvic abscess through the vagina, mentioning instruments used.
- 6. Given an incised wound across back of hand, dividing structures down to bones, repair, giving details of operation step by step.
- 7. Give the symptoms of disease of prostate gland. What diseases may affect it and diagnosis.
- 8. Differentiate between sarcoma and tuberculosis of the femur. Indicate operation in each.
- 9. Give operation for radical cure of varicocele.
- 10. What tumors affect the female breast. Give diagnosis and indications for operation and the extent of removal of tissue. What after results are to be avoided and how?

Dr. Harry H. Wyman, Examiner.

Minor Surgery.

- 1. Give symptoms of fracture of clavicle and treatment.
- 2. How would you prevent infection in a badly mangled foot?
- 3. Give causes, symptoms and treatment of an ischio-rectal abscess.
- 4. How would you treat a case of laryngeal diphtheria with marked cyanosis.
- 5. What is Dupuytren's contraction? How may it be caused in fractures and how avoided?
- 6. What are the forms of talipes varus (clubfoot). Give causes and treatment.
- 7. Give symptoms of a limited or local neuritis, causes and treatment.

- 8. Symptoms of contusion, concussion of brain. With what may they be confounded? Differential diagnosis and treatment.
- 9. What is Potts disease? Give symptoms, diagnosis and treatment in a child suffering from it.
- 10. Give symptoms and diagnosis of epidydimitis and treatment.

Dr. A. M. Brailsford, Examiner.

Physiology-Junior Curriculum.

- 1. Discuss the physiology of the spinal cord.
- 2. Describe a motor reflex act, and mention the most important reflexes.
- 3. What are the sources of animal heat and how is it regulated?
- 4. Discuss the theory of urinary secretion.
- 5. Give the composition of blood and compare arterial and venous blood.

Hygiene, Sanitary Science and State Medicine—Senior Curriculum.

1. What hygienic measures should be

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made with several antigens. We test for native antisheep amboceptor and anticomplementary qualities. Noguchi and Hecht Weinberg controls if desired.

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- 2. In dealing with bubonic plague, what steps should be taken to limit or extinguish the scourge?
- 3. Why are storage cisterns under ground objectionable?
- 4. Define the term "Nuisance," and mentio some of the nuisances dangerous to health.
- 5. How would you inspect immigrants who have just arrived at a seaport, and what medical and hygienic measures would you employ in dealing with them?

- 6. Give a plan by which a pure milk supply may be obtained.
- 7. How would you inspect premises where there were no sewerage connections, and where horses and cows are kept; also, what measures would you suggest to keep such a place sanitary?
- 8. What is the best method of sanitary disposal of sewerage in small towns where water works have been installed?
- 9. How should an inspection of meat be conducted?
- 10. (a) What are ptomaines? (b) Describe the symptoms produced by them when absorbed into the system.

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Highlands Camp Sanatorium is situated on a Blue Ridge plateau, 3850 feet above sea level.



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Highlands Camp Sanatorium, Highlands, N. C. F. D. COBURN, Manager

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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

THE GREENWOOD MEETING— PROVISIONAL PROGRAM— DISCUSSIONS,

In this issue appears the Provisional Program for the meeting of the South Carolina Medical Association at Greenwood. We believe this to be a program which should meet the hearty approval of the membership. There is surely much here to stimulate discussions of a high order. Last year we made special effort to call the attention of those who expected to be present at the annual meeting to the necessity for careful study of the program with a view to taking part in the discussions. The appeal brought gratifying results—

and the discussions were the most spirited we have ever had. We, therefore, urge again that each doctor who expects to go to Greenwood think over the program and keep his mind alert for an opportunity to add to the interest of the occasion.

We have been assured repeatedly by the profession and citizens of Greenwood that our coming into their midst will be considered no ordinary event and we may confidently look forward to a great meeting.

CLEAN-UP DAY IN SOUTH CAROLINA.

The State Board of Health has officially designated April the 10th, as Clean-Up Day for South Carolina.

This is an extremely important matter and one in which the South Carolina medical profession should lead in their several communities.

The movement has assumed almost a nation-wide proposition and bids fair to remain with us as a permanent institution. The sooner we grasp this idea and push it along, the better.

DEATH OF DR. T. G. CROFT.

As we go to press we learn of the death of Dr. T. G. Croft, of Aiken, and while ample tribute will be paid to his worth in due course of time. we pause here to acknowledge our great appreciation of his loyalty to The Journal, and all the interests of the South Carolina Medical Association, up to the very date of his death. He had been repeatedly honored by the profession, having been, many years ago, President of the South Carolina Medical Association. was a regular contributor to The Journal and in many ways encouraged the Secretary-Editor. He kept up a keen interest in organized medicine, and no one worked harder for the upbuilding of the County, District and State Association, although he was advancing in years and for sometime his health had been impaired.

SHOCK.

Shock—the result of exhaustion—brain cell exhaustion—the most vital effect of which is the impairment of the vasomotor mechanism. This is Dr. Crile's definition, of whom most of us think when surgical shock is mentioned, for we are familiar with his well-known contributions on the subject. Many physicians associate shock with the sur-

gical operating room, where the operation has been long, or the patient debilitated because of injury, sepsis, or loss of blood. This, however, is a limited view to take, for the scope is a wide one, extending into the realm of psychology. The bird charmed by the snake, the child struggling in the dentist's chair, the nervous mother in her first confinement, the sick man among strangers. the parent sick but sleepless, because she fears that her children will want -all have the same condition of brain cell fatigue. If allowed to continue, the most alarming, even fatal results, may follow. pression 'scared to death' is many times a statement of the actual fact.

We have all seen this condition: but have not recognized the significance of it. Physicians, in their practice, have to calm the excited family, reassure the patient, and induce quiet before they can even find out what is necessary. If they perceive, by a hasty examination, that the patient is not in jeopardy, it is customary to induce sleep, for they know that after a few hours of such rest the patient will be more quiet, and easier to deal with. methods are used in maternity work. and carried a little farther, many times by the aid of hypnotics, in surgical operations for exactly the same reason. The excited patient, in fear, having cold extremities, the pulse rate increased—every one who has given an anesthetic to such a person knows the disadvantage against which, he, the surgeon, and the patient are laboring. this handicap the effect of the anesthetic, the manipulation of tissues, the loss of blood, slight though it be, the time necessary to operate and we have a condition where recovery is difficult. Fortunately a number of

patients do not have this exhaustion to labor against; and if it can be prevented, the delivery, the operation, the treatment, of whatever nature it is, proceeds without excitement; hence recovery is looked forward to with success.

If shock occurs, the treatment is difficult, for the drugs formerly thought to relieve, are now known to aggravate the condition. Morphine and atropine are the most efficacious; alkaline fluids by bowel and into a vein are good; but human blood is the best, given by transfusion; for since there is vaso-dilatation, the blood is in the visceral vessels, not in the brain or the extremities: elevate the foot of the bed.

Prevention is most important—got by inducing quiet of body and mind; reassure the patient. If he is nervous, administer a sedative; before operation, morphine with or without scopolamin, repeated if necessary; have quiet during the administration of the anesthetic; handle tissues gently; conserve time. The results will more than repay us for these preventive measures.

Above all, secure the patient's confidence, and you will be surprised at what he will permit you to do—and the composure with which he submits.

PROVISIONAL PROGRAM OF THE SIXTY-SEVENTH ANNUAL MEETING OF THE SOUTH CAROLINA MEDICAL ASSOCIATION, TO BE HELD AT GREENWOOD, S. C., APRIL 20, 21, 22, 1915.

(Subject to rearrangement for final program.)

1. "What a Community Has a Right to Expect of Its Physicians."— Dr. E. W. Pressly, Clover, S. C.

- 2. "The Better Way of Putting a Diaper on the Baby."—Dr. S. A. Visanska, Atlanta, Ga.
- 3. "Milk in the Diet of Infants and Children."—Dr. D. L. Smith, Spartanburg, S. C.
- 4. "The Skin Diseases of Child-hood."—Dr. W. R. Barron, Columbia, S. C.
- 5. "A Consideration of Pericolic Membranes With Report of Three Cases."—Dr. J. H. Taylor, Columbia, S. C.
- 6. "Gunshot Wounds of the Abdomen With Report of Cases."—
 Dr. S. R. Harmon, Columbia, S. C.
- "Forty-six Cases of Intubation."
 Dr. E. W. Carpenter, Greenville, S. C.
- 8. "Roentgen Ray Diagnosis of Fractures and Bone Lesions" (lantern slides).—Dr. A. R. Taft, Charleston, S. C.
- 9. "Endamebiasis of the Mouth."— Dr. K. M. Lynch, Charleston, S. C.
- 10. "Some Problems in Infant Feeding"—Dr. W. P. Cornell, Charleston, S. C.
- 11. Subject Unannounced.—Dr. A. W. Browning, Elloree, S. C.
- 12. "Therapeutic Value of Mineral Waters."—Dr. F. L. Parker, Charleston, S. C.
- 13. Subject Unannounced.—Dr. G. E. Thompson, Inman, S. C.
- 14. "The Diagnosis of Incipient Tuberculosis."—Dr. N. B. Edgerton, Columbia, S. C.
- 15. "Internal Medicine as a Specialty."—Dr. J. H. Gibbes, Columbia, S. C.
- 16. "The Infected Individual—a Public Danger and a Public Problem."—Dr. G. F. Klugh, Cross Hill, S. C.
- 17. "Recent Observations in Stomach Surgery."—Dr. R. T. Ferguson, Gaffney, S. C.

- 18. "The Emetine Treatment of Pyorrhea Alveolaris or Riggs Disease."—Dr. N. B. Heyward, Columbia, S. C.
- 19. "A Word as to Optometry."—Dr. Theo. A. Quattlebaum, Columbia, S. C.
- 20. "Experiences With Emetine in Dysenteric Conditions."—Dr. H. L. Shaw, Fountain Inn, S. C.
- 21. "Diphtheria Contact in the Spread of the Disease."—Dr. G. McF. Mood, Charleston, S. C.
- 22. "The Importance of Diagnosis of Abdominal and Lumbar Pains in Women."—Dr. C. W. Barron, Columbia, S. C.
- 23. "Removal of Open Safety Pin, Point Up From the Esophagus."
 —Dr. J. F. Townsend, Charleston, S. C.
- 24. "Inflammatory Rheumatism (?) Its Nature, Causes and Sequelae. The Modern Treatment."—Dr. S. C. Baker, Sumter, S. C.
- 25. A G. U. Subject.—Dr. Walter Cheyne, Sumter, S. C.
- 26. "Gastroptosis, Its Causes, Diagnosis and Treatment—Report of a Case."—Dr. C. J. Lemmon, Sumter, S. C.
- 27. "Specific Skin Reactions, Their Value and Significance."—Dr. H. M. Smith, Columbia, S. C.
- 28. "Tubercular Meningitis."— Dr. R. M. Pollitzer, Charleston, S. C.
- 29. "Observations on Aortic Aneurysm."—Dr. W. Atmar Smith, Charleston, S. C.
- 30. "The Diseased Tonsil a Factor in the Production of Systemic Diseases."—Dr. L. O. Mauldin, Greenville, S. C.
- 31. "Surgical Treatment of So-called Prostatic Hypertrophy."—Dr. Le Grande Guerry, Columbia, S. C.
- 32. "The Clinical Significance of Albuminuria."—Dr. J. J. Watson, Columbia, S. C.

SYMPOSIUM ON ANESTHESIA.

- 1. "Twenty-five Years Experience in Administration of Chloroform Without a Death."—Dr. Archie China, Sumter, S. C.
- 2. Ether.—(Author unannounced.)
- 3. Nitrous Oxide.—(Author unannounced.)
- 4. Spinal Anesthesia.—Dr. Geo. T. Tyler, Greenville, S. C.

PROPOSED AMENDMENTS TO THE STATE MEDICAL PRACTICE ACT AS WILL BE SUBMITTED TO THE DELEGATES OF THE SOUTH CAROLINA MEDICAL ASSOCIATION AT THEIR ANNUAL MEETING AT GREENWOOD, S. C.

Section 1618, Article 2, Chapter XXXIII, Volume I, of the Code of Laws, 1912, is as follows:

Physicians Qualified to Practice Medicine.—No person shall practice medicine or surgery within the State, unless he or she is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his or her authorization, or is hereafter authorized to do so by subsequent subdivisions of this Article.

Who Regarded as Practicing Medicine.—Any person shall be regarded as practicing medicine, within the meaning of this Article, who shall treat, operate on, or prescribe for any physical ailment of another, except those engaged solely in the practice of osteopathy. But nothing in this Article shall be construed to prohibit service in cases of emergency, or the domestic administration of family remedies.

When said Section is amended as proposed it shall read as follows:

Section 1, Paragraph 1618: Physicians Qualified to Practice Medicine.—No person shall practice med-

icine or surgery within the State, unless he or she is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his or her authorization, or is hereafter authorized to do so by subsequent subdivisions of this Article.

Who Regarded as Practicing Medicine.—Any person shall be regarded as practicing medicine, within the meaning of this Article, who shall hold himself out to practice medicine surgery or any branch thereof, for gain or hire within this State by diagnosing, relieving in any degree, or curing, or professing or attempting to diagnose, relieve or cure, any human disease, ailment, or defect, or complaint, whether physical or mental, or of physical or mental origin, by attendance, or by advice, or by operation, or by prescribing or furnishing any drug, or medicine, appliance, manipulation, method or any therapeutic agent whatsoever, or in any other manner unless otherwise provided by statute. But nothing in this Article shall be construed to prohibit service in cases of emergency. or the domestic administration of family remedies.

Section 1621, Article 2, Chapter XXXIII, Volume I, of the Code, 1912, is as follows:

Duties of Board.—It shall be the duty of said Board, when organized, to examine all candidates for examination, as hereinafter provided and described, and to pass upon their qualifications and fitness to practice medicine in this State, and to give to each successful applicant a certificate to that effect, upon the payment of ten dollars to the Treasurer of said Board, one-half of which shall be returned if the applicant fails to secure a certificate of qualification.

Such certificate of qualification shall entitle the holder or holders thereof, respectively, to be registered as a lawful practicing physician by the Clerk of Court of the County in which he or she or they may reside, upon the payment to said Clerk of Court of a fee of twenty-five cents for each registration. No physician will be considered as a legally qualified practitioner, or as having fully complied with the law until he shall have obtained said registry. In the interim between the meetings of the Board, the President and Secretary of the Board shall be allowed to grant temporary license to practice medicine until the next regular meeting of the Board, to such persons as would, under the above Section, be eligible for examination. Said temporary license shall not entitle the holder to registry with the Clerk of Court of the County in which he resides, but at the next regular meeting of the Board the applicant must come up for the regular examination for permanent license.

When said Section is amended as proposed it will read as follows:

Section 1, Paragraph 1621: Duties of Board.-It shall be the duty of said Board, when organized, to examine all candidates for examination, as hereinafter provided and described, and to pass upon their qualifications and fitness to practice medicine in this State, and to give to each successful applicant a certificate to that effect, upon payment of ten dollars to the Treasurer of said Board, one-half of which shall be returned if the applicant fails to secure a certificate of qualification. certificate of qualification shall entitle the holder or holders thereof, respectively, to be registered as a lawful practicing physician by the Clerk of the Court of the County

in which he or she or they may reside, upon payment to said Clerk of Court of a fee of twenty-five cents for each registration. No physician will be considered as a legally qualified practitioner, or as having fully complied with the law until he shall have obtained said registry. In the interim between the meetings of the Board, the President and Secretary of the Board shall be allowed to grant temporary license to practice medicine until the next regular meeting of the Board, to such persons as would, under the above Section, be eligible for examination. Said temporary license shall not entitle the holder to registry with the Clerk of Court of the County in which he resides, but at the next regular meeting of the Board the applicant must come up for the regular examination for permanent license. Provided, that said Board of Medical Examiners through its member in the respective district in which a violation of the provisions of this Section may occur, may cause to issue in any court of competent jurisdiction, a writ of injunction, enjoining the person or persons guilty of such violations from practicing medicine as defined herein in any of its departments, until such person or persons shall have first obtained and registered the certificate provided for in this Act. And any person so enjoined shall not be subject to release by giving bond. Provided further, that in the same suit in which said injunction may be applied for, the said Board of Medical Examiners. through its members, may sue for and demand of the defendant a penalty of one hundred dollars besides the costs of the court, and in case of failure to pay said penalty and costs, the defendant shall be imprisoned in the county jail for a period of thirty

days. The trial of said proceedings shall be summary and shall be tried by the judge without intervention of a jury. Provided further, that unless duly registered by the Clerk of the Court, as herein provided for, no person shall prefix the title "Doctor," or the letters "Dr.," or append the letters "M. D." to his or her name or use said title or abbreviation of said title in any other manner than herein provided. Provided further, that nothing herein contained shall prevent any person who has received the Doctor's degree from any reputable college or university, other than the degree of "Doctor of Medicine" from prefixing the title "Doctor" or the abbreviation thereof to his or her name, if he or she does not engage in the practice of medicine as defined in this Act.

Section 396, Article 1, Chapter XVI, Volume II, of the Code of Laws of 1912, is as follows:

Practicing Medicine Without Authority a Misdemeanor.—It shall be unlawful for any person or persons to practice medicine or surgery, or any branch or specialty of the same, in this State, who has failed to comply with the provisions of Sections 1618 to 1631, of the Civil Code, shall be deemed guilty of a misdemeanor, and for each offense, upon conviction by a court of competent jurisdiction, shall be fined in any sum not less than fifty dollars nor more than three hundred dollars, or imprisoned in the county jail for a period of not less than thirty days nor more than ninety days, or both, at the discretion of the court. One-half of said fine to go to the informant, and onehalf to the State. Provided: That dentists and midwives shall not be subject to the provisions of this section. Provided further, that the State Board of Medical Examiners shall issue license to Osteopaths and Homeopaths, specifically, for the purpose of practicing osteopatny and homeopathy, respectively, when the applicant presents a diploma from a duly authorized school of osteopathy or homeopathy and satisfactorily passes examination before the State Board of Medical Examiners on regular branches upon which applicants for license to practice medicine are examined, except materia medica and therapeutics, major surgery and the practice of medicine. Provided further, That osteopaths and homeopaths now holding licenses from the State Board of Medical Examiners shall be exempt from the provisions of this Section.

When said Section is amended as proposed it will read as follows:

Practicing Medicine Without Authority a Misdemeanor.—It shall be unlawful for any person or persons to practice medicine or surgery, or any branch or specialty of the same, in this State, who has failed to comply with the provisions of Sections 1618 to 1631 inclusive, as amended, of the Civil Code; and any one violating the provisions of said Sections of the Civil Code, shall be deemed guilty of a misdemeanor, and for the first offense, upon conviction by any court of competent jurisdiction, shall be fined the sum of one hundred dollars, or imprisonment in the county jail for a period of thirty days. And for each subsequent offense shall be fined the sum of two hundred dollars or imprisonment in the county jail for a period of sixty days, or both,

at the discretion of the court. Onehalf of said fine to go to the State, and the other half to be deposited with the State Treasurer to constitute a special fund for the prosecution of those persons violating the provisions of this Act; said fund to be paid to the Board of Medical Examiners upon warrants drawn therefor by its secretary. Provided, That each day of such violation shall constitute a separate offense. all prosecutions under the provisions of this Act, evidence that the defendant has failed to register his certificate with the Clerk of Court as required by law shall be prima facie evidence that defendant is not a legally licensed practitioner. And on trial the burden of proof shall be on the defendant to prove his right to practice before such registry. Provided. That dentists shall not be subject to the provisions of this Section. Provided further, That the State Board of Medical Examiners shall issue license to osteopaths and homeopaths specifically for the purpose of practicing osteopathy and homeopathy, respectively, when the applicant presents a diploma from a duly authorized school of osteopathy or homeopathy and satisfactorily passes examination before the State Board of Medical Examiners on all regular branches upon which applicants for license to practice medicine are examined, except materia medica and therapeutics, major surgery and the practice of medicine. Provided further, That osteopaths and homeopaths now holding licenses from the State Board of Medical Examiners shall be exempt from the provisions of this Section.

A PROPOSED BILL RELATING TO PRACTICE OF MIDWIFERY.

Any person practicing midwifery in this State at the time of the passage of this Act, shall within ninety days thereafter, register with

the Clerk of Court in that county in which she intends to practice, in the manner provided for the physicians, giving her age and the length of time, and the place or places at which she has been engaged in said practice, and make affidavit thereto, and shall pay to the Clerk of Court a fee of one dollar, said Clerk of Court shall issue a certificate to the one so registered in accordance with the facts herein set forth on a blank to be furnished by the State Board of Medical Examiners which shall entitle the holder to practice midwifery in the county in which the certificate is issued. The Clerks of Court of the various counties of the State shall annually on the first Monday in January make returns to the Secretary of the State Board of Medical Examiners of all certificates on record in his office.

All persons beginning the practice of midwifery in this State after the passage of this Act shall go before one of the State Board of Medical Examiners and submit to such examination in midwifery as the Board shall require, and shall pay to the Board for such examination the sum of ten dollars. If such examination is satisfactory the said Board shall issue a certificate the same as provided for midwives in practice at the time of the passage of this Act, which certificate shall be registered, as in the manner provided for midwives in practice at the time of the passage of this Act, but for such registration with the Clerk of Court, the holder of said certificate shall be required to pay a fee of fifty cents only.

PERSONALSANDNEWSITEMS

Dr. James H. McIntosh, of Columbia, was elected President of the Tri-State Medical Association at its recent meeting in Charleston, February 18th.

Governor Manning has appointed on the Board of Regents of the State Hospital for the Insane Dr. S. C. Baker, of Sumter, and Dr. C. F. Williams, of Columbia.

The Governor has appointed on the Board of Charities and Correction: Geo. B. Cromer, Newberry; Z. T. Cody, Greenville; D. B. Walker, Spartanburg; L. O. Patterson, Greenville, and R. H. King, of Charleston. Doctors Jervey and Jordan, of Greenville, have recently completed one of the handsomest and best appointed office buildings in the South. The building is designed to be attractive to professional men, especially doctors and dentists.

Dr. J. Adams Hayne, Secretary of the State Board of Health, has been notified that the cities of Columbia, Greenville, and Spartanburg have been made registration areas by the United States Bureau of Census as a result of the vital statistics law. Heretofore Charleston has been the only registration city in South Carolina.

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ORIGINAL ARTICLES

THE PHARMACOLOGY OF SCOPOLAMIN.

*By J. Heyward Gibbes, M. D., Columbia, S. C.

T SEEMS desirable in view of the recent prominence given to the above-mentioned drug, both in lay and medical literature, that a brief outline of its pharmacology be presented to the profession of the The work of Kronig and Gauss, in the production of the socalled "twilight sleep" in labor has been popularly exploited before the public, stress being placed upon the relief of pain that results for the mother, without due consideration being given to the possible dangers to both the mother and the child. The flood of favorable reports that are now appearing from medical men, giving results in their experiences that would seem to indicate little danger from the use of the morphin-scopolamin mixture, should not be given undue weight, for the well-known tendency of us all to report successes and to cover mistakes is as prevalent now as in former times, and the failure of potential harm to manifest itself may be due as much to good fortune on the part of the physician or to sturdy resistance on the part of the patient as to any inherent qualities of protection on the part of the medicine. However, it is easy to understand how popular and pseudo-scientific articles, exaggerating the benefits to be derived from an analgesic measure

during childbirth, and at the same time neglecting or minimizing the dangers incident thereto, may lead to very false conceptions in the public mind. Nor is it entirely impossible that these misconceptions of the laity may lead to demands by them upon the profession that will be responsible for an occasional indiscretion on the part of the latter. In clinical medicine the ever recurring fallacy of "post hoc, ergo propter hoc" renders decisions, especially with reference to treatment, of very doubtful value. In attempting to decide as to indications for and against the use of a drug, a re-reading of pharmacology and physiology will generally prove of more service than will many clinical observations. It is with this belief in my mind, that I am attempting to put before you a statement of the pharmacology of scopolamin. I have recently heard it stated by a physician, who does a considerable obstetrical practice, that he was frequently asked by prospective mothers about the advisability of using "twilight sleep," that he invariably told them that they might expect some relief from suffering but only at the expense of increased danger to the child, and that in almost every instance the woman refused the drug. other hand, many reputable practitioners consider it safe, under certain conditions, to use the remedy in obstetrics, and apparently do not hesitate at its administration without consulting the patient. It is not my purpose to discuss the relative merits of these positions, but it is only fair to state that the concen-

^{*}Read before the Columbia Medical Society, February 5th, 1915.

sus of expert obstetrical opinion is to the effect that the unguarded use of these drugs in labor is undesirable. A very good resume of this phase of the subject can be found in an article by Dr. Edward P. Davis, appearing in the American Journal of Medical Sciences for January, 1915.

Scopolamin is a laevarotatory alkaloid with the chemical formula, C_{17} , H_{21} , NO_4 being a member of the atropin group of drugs. It was first obtained from Scopolia Atropoides, but is also found in the following plants: Atropa Belladonna, Hyocyamus niger, and Datura Stramonium. For sometime hyoscin was thought to be a different drug from scopolamin, because of their having been obtained originally from different plants, but the chemical identity of the two has now been established, and the name "hyoscin" is disappearing from medical literature. Thus any attempt at differentiation between the actions of hyoscin and scopolamin can be of no value.

In general, the action of scopolamin is entirely similar to that or atropin, with the exception that the former exerts a much more powerful central action, relatively small doses producing a clouding of consciousness, and larger ones a complete abevance of the higher psychical functions. The first effect of scopolamin upon the central nervous system is said to be a motor sedative action, there being a relaxation of the voluntary muscles, while the patient is still susceptible to psychical and sensory stimuli. This sedative action upon the musculature applies to the involuntary muscles as well, and, like other members of the atropin series, scopolamin causes a diminished activity of the uterus, the intestines, and other organs supplied

with smooth muscle. Might not some of the relief obtained in labor be due to this motor sedative effect as well as to the sensory sedative effect? And is such action desirable? Following this stage of motor sedative action, a clouding of consciousness ensues, and in this condition the patients may have sense-deceptions, hallucinations, and may even pass into a true delirium. Most often this exciting effect is not observed, and the patient passes into a deeper and deeper somnolent condition as the dose of the drug is increased. A degree of complete anaesthesia, sufficient for the performance of major surgical operations can be produced.

Scopolamin acts upon the endings of the sympathetic nerves as does atropin, producing dilatation of the pupils, paralysis of accommodation, dryness of the mouth and throat, relaxations of the intestines, etc.

Meyer and Gottlieb state that the chief danger in the use of scopolamin lies in its tendency to inhibit the respiratory movements, and to produce cardiac collapse. The latter condition may be brought about by its action upon the vagus as well as through direct inhibition of the heart muscle. It is interesting to note, however, that the difference between the sedative dose of scopolamin and the toxic dose is considerable, both for animals and in man.

A point of practical importance is the fact that impure preparations of scopolamin may contain Apoatropin, a dangerous poison to the central nervous centers.

The synergistic action of morphin and scopolamin has been known for some time, and it is this that has been utilized in the production of "twilight sleep." Small doses of scopolamin given at the same time

with morphin, or some other alkaloid of opium, greatly enhance the sedative value of both drugs. Kronig and Gauss use narcophin in conjunction with scopolamin for the initial dose, giving 0.03 G. of the former and 0.00045 G. of the latter, and then keep the patient in the desired narcotic condition with subsequent injections of scopolamin alone. It is well to mention here that these observers consider the procedure unsafe unless an experienced medical attendant can be constantly with the patient.

A great many practitioners seem to use the so-called "H. M. C." tablet which is put up by the Abbott Alkaloid Company, said to contain "Hyoscin," Morphin, and "Cactein," or "Cactoid." There are two such tablets, No. 1 and No. 2. The doses of the drugs are given as follows:

No. 1 No. 2.

Morphin hydrobromide 1-4 gr. 1-8 gr.

Hyoscin hydrobromide 1-100 gr. 1-200 gr.

Cactoid ______ 1-64 gr. 1-128 gr.

"Cactoid" is presumably a preparation of Cactus grandifloros, or Cereus grandifloros, which was at one time classed as a heart stimulant and as belonging to the digitalis series. But it has been found to have little or no stimulant action upon the heart, and has been removed from this classification. If members of the profession continue to use "twilight sleep" in labor, they can have their own mixtures of scopolamin and morphin made by any competent druggist.

A consideration of the pharmacology of scopolamin at the present time would not be complete without reference to its effect upon the foetus. It needs little stretch of the imagination to picture a multiplication of the dangers to an unborn child of the administration of a dangerous drug in dosage that is not devoid of danger to the mother. It is, of course, problematical just what percentage of the drug which is absorbed by the maternal circulation may pass through the placental circulation into the foetus. But that some such diffusion does take place is attested by all who have used scopolamin in this way, for "blue-babies" form a part of the experience of all. unitiated respiratory mechanism of the unborn child may be permanently discouraged by even minute doses of a powerful respiratory depressant.

We may safely say in conclusion:

- 1. The scopolamin-morphin technique renders labor less painful for the mother.
- 2. The administration of this combination of drugs is not devoid of danger to the mother, and should never be given unless the physician is experienced in its use, familiar with the possible dangers that may arise, and can be constantly with the patient from the time of the first injection to the delivery of the child.
- 3. The procedure is fraught with considerable danger for the child. And it is this fact that should be bourne in mind in deciding for or against the employment of "twilight sleep."

ACHANDROPLASIA.

*By W. Atmar Smith, M. D., Charleston, S. C.

A CHANDROPLASIA as its name implies, is a dyscrasia of the cartilages. The term indicates an absence of cartilaginous bone formation and hence is inaccurate, as cartilaginous bone formation.

^{*}Read before the Medical Society of South Carolina, January 15, 1915.

does occur but is, according to the "criterion of priority," the correct name for the condition.

The subject was practically unknown until Virchow reported a case as a fetal cretin. This stimulated interest and the subject was persued by H. Muller, Klebs, and notably Parrot. Parrot, in 1878, differenti-



Figure I .- Achandroplasia.

ated it from Rickets and gave the name Anchandroplasia. Klebs demonstrated that the "fetal cretin" of Virchow, which was a museum specimen, was achandroplasia.

The earlier cases studied were stillborn infants. Marie was the first to give a clear picture of the disease in adults, and it was from his paper, Emerson states, that great interest in the subject has arisen, as is shown by the large number of cases reported and the vim with which the art galleries

have been searched for evidence of its existence in the past.

It is stated that achandroplasiacs were court dwarfs of the seventeenth and eighteenth century, who served as buffons for the Kings and Queens, for which positions they were well qualified by their mischievous tendencies and ready wit. It is supposed that some of the gladiators who fought before the Roman Emperor Dominitian were achandroplasiac dwarfs. The pictures on the coffins of certain mummies seem to suggest that they were achandroplasiacs.

The peculiarities of the disease repeated with such constancy, has enabled certain men to recognize the condition in ancient Greek sculpture and the works of the old Masters.

PATHOLOGY.

Pathologically, Achandroplasia is a dystrophy of the epiphyseal cartilages. The cartilage cells are irregularly scattered and the ground substance is invaded by connective tissue from the periosteum, which seems to send in a band of tissue across the end of the diaphesis, thus preventing its increase in length and causing the premature union of epiphesis and diaphesis (Osler). An extreme vascularity of the epiphyseal cartilages is an almost constant feature. The marrow spaces are usually large and the marrow tissue is very cellular and vascular.

The bones chiefly affected are the long bones of the extremities, the innominate, ribs, postern part of skull and its base. The bones which develop from membranes are not affected. The involvement seems slight in the short bones, the vertebra and the metacarpals, etc.

The disease develops in utero and frequently runs its course, being the

cause of a number of cases of still-birth. The big majority of achandroplasiacs die in intancy. Those who pass through this stage seem to be equally as hardy as their normal brothers.

It is pointed out by Poynton that the disease is not confined to man, being met with in such breeds of dogs as the daschund and also in some breeds of cattle and sheep.

ETIOLOGY.

It is common knowledge that when a large number of drugs are advocated for the treatment of a single condition, as a rule, none is effective. It is much the same when a large number of factors are suggested as the cause of a certain disease. There is rarely one that explains.

No one cause has been proven in achandroplasia, so briefly the etiology of this condition is unknown. It would not be fair, however, not to mention a few of the theories that are advanced.

There seems to be little doubt that achandroplasia can be directly inherited. Marie, it is stated, accepted three cases as certain. Porter re. ported a father, age 88, and his two sons achandroplasiacs. The father of the old man, and his brother, were achandroplasiacs also. Charigny's patient stated he was the tallest of four children, all shaped like himself. It is interesting to note, however, that Catherine de Medici tried to raise a race or dwarfs, by arranging the marriage of these unfortunate people, but she failed.

Symington and Thompson described achandroplasia as an arrest or perversion of the normal processes of endochondral ossification, involving, during intra uterine life element of the skeleton. Durante thought it a sclerosis of the zone of

endochondral ossification. Marie maintains that the change in the cartilage is an effect and not the cause, and that the disease is a general dystrophy comparable to myoedeum. He does not think it is the thyroid gland that is at fault. Peloquin believes the disease to be due to a maternal infection. Cestan



Figure II.

claimed that the disease originated in the utero before glandular activity begins and so can not be due to any defective internal secretion. He believes it toxic and akin to rickets. Kassoevitz also believes in the toxic theory because of the appearance of the vessels which are so numerous in the cartilage. Basch incriminates the thymus gland.

Lannois raised the question of the possible relationship between giantism and achandroplasia. He reported a case of an achandroplasiac

whose next older brother was 6 feet, 5 inches. He suspects some dyscrasia in the mother.

It is stated that achandroplasia occurs more frequently in women



Figure III.

than in men. It seems possible that this difference might be more apparent than real, being due to the fact that women come under observation more frequently because of obstettrical difficulties.

SYMPTOMS.

The symptoms of achandroplasia as you will see well illustrated in the case here presented, are striking. The most noticeable points are the long body, short extremities and large head. This subject is 551/4 inches in height. (Fig. I.)

The head here is large and dome shaped and contracted at the base. The frontal and parital bosses are fairly prominent. The circumference is $22\frac{1}{4}$ inches, the ant-post. diameter $7\frac{1}{2}$ inches and the bi-parital 7 inches. The peculiar head is due to the premature synostosis of the basilar process of the occipital bone and two parts of the sphenoid, thus shortening base of skull. The membrane bones being well developed make the vault rather disproportionate. I would mention here that in infancy the closure of the fontanelles is retarded.

Another fairly characteristic feature is the depression at the root of the nose. (Fig. II.) It is not so marked in this case but is distinctly apparent. This is explained according to Virchow, by the shortening

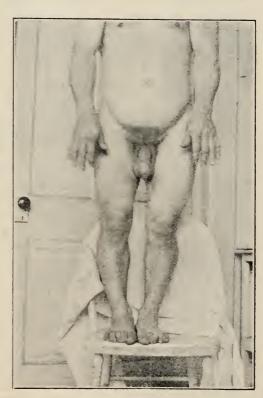


Figure IV.

of the base of the skull, though it is possibly affected also, as pointed out by Kaufman, by the shortening of the nasal and ethmoid bones.

The long body and short extremi-

ties are well shown here. (Fig. III.) The vertebra not being involved, the trunk attains its normal height, but the changes in the epiphyseal cartilages of the long bones cause the disproportion. From the acromian to the great trochanter measures 19 inches, whereas from the trochanter to the external malleolus is only 23 inches. Normally the difference in these dis-

The sacral promontory projects into the inlet of the pelvis. The acetabula, from the shortening of the ileopectineal line, lie unduly near the sacro-illia synchondrosis, the femora are thus attached posteriorly as compared to that of the normal individual, thus tilting the pelvis forward. This causes an antero-posterior flattening. The changes in the pelvis





Figs. V and VI.-Rachitic Dwarf.

tances is from 12 to 14 inches, instead of 4 inches, as in this case.

Another point of significance is the short proximal segment and long distal. Here the distance from trochanter to condyle is 11 inches, and from condyle to malleolus, 12 inches.

The same relative disproportion is noted in the upper extremity. The trunk here is fairly typical. Note the long straight back, sharp pelvic curve with prominent buttock and belly. (See Fig. II.) This is due to an implication of the pelvic bones.

are of great obstetrical interest; the majority of women having to be delivered by Caesarean section.

The hand is rather characteristic; fingers short and all nearly the same length. (Fig. IV.) Frequently it has a trident shape, due to the fact that the ring finger lies in a plain posterior to the others, so that the other two fingers on the ulna side seem to diverge, thus giving the three prongs of a trident.

In these cases there is a frequent curving of the long bones, due, it is stated, to an exaggeration of the normal curves and not, as in rickets, to pathological twistings of the bones themselves. Knock-knee and bowleg is fairly common in achandroplasia, and is due, not to the curving of the bones, but to the joints, since bones are articulated at an angle.

Achandroplasiacs are, as a rule,

ever, are described as being mischievous, intemperate and lascivious.

The achandroplasiac is notoriously well developed in a sexual way. Both anatomically and functionally has this been demonstrated. One achandroplasiac, an unmarried girl, was delivered by Caesarean section three times. The sexual appetite of the





Figs. VII and VIII .- Infantilism.

well nourished, strong and muscular. They are frequently seen among circus acrobats where, because of their strength and skill, they excel.

They possess average intelligence, some are exceedingly bright and quick witted, and make excellent vaudeville actors. As has been stated, their bright repartee and sharp wit served to amuse the royalty of earlier centuries. There are cases again, who are rather limited mentally. The vast majority, how-

men frequently gets them in trouble.

DIAGNOSIS.

As a rule the diagnosis is easy. The condition is suspected at the first glance. For confirmation a close study will disclose the relative disproportion of trunk and extremities. The study of a case should be made by comparing a normal indidual of same age with suspected subject, especially in children should this be done.

Achandroplasia must be differentiated from dwarfism due to rickets, cretinism and infantilism.

The short statue of the rachitic dwarf is due to the bowing of his legs. The arms are long, the thorax misshapen and the hands not trident.

This boy is $57\frac{3}{4}$ inches.

Note here (Figs. V and VI) the twisted distal segments. Typical saber shins. His short statue is due to the twisting of these bones. Not exaggeration of normal curves, but distinctly abnormal ones. He has the rachitis rosary, and there is some scoliosis.

The myxoedematous dwarf presents the well-known characteristics of this condition, pallor oedema, large tongue, blunted mentality, and absence of secondary sexual characterictics.

Infantilism is the retention of youthful proportion into adult age. Its chief differential characteristics are relatively long legs and short body and the absence of primary and secondary sexual development. This individual is 28 years old and is about 58 inches tall. Note the boyish proportions (Figs. VII and VIII), the immature sexual organs and the absence of pubic, axilary and facial hair. His face shows the finger prints of time, but his contour is that of a child.

PROGNOSIS.

The majority of achandroplasiacs are stillborn. Usually they die at about eight months of intra-uterine life. The cause of this has been explained that the small rigid ring of bone formed by the synostosed bones surrounding the foramen magnum exerts pressure upon the spinal cord destroying life. This too might explain the unusual number of deaths during the first year. It thus de-

pends on the rapidity of cartilaginous ossification.

After first year prognosis is as favorable as in normal children. Many achandroplasiacs live until ripe old age. One case reported lived to be eighty, doing hard work up to his seventieth birthday.

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REMARKS ON A CONSECUTIVE SERIES
OF TWENTY-SEVEN PENETRATING AND PERFORATING GUNSHOT WOUNDS OF THE ABDOMEN
WITH THREE DEATHS.

By Le Grande Guerry, M. D., Columbia, S. C.

HE management of penetrating gunshot wounds of the abdomen is the great branch of emergency surgery in which Southern surgeons have played a very conspicuous part. The late Dr. Hunter McGuire, in a paper read before the Virginia Medical Society, in November, 1873, not only advised, but urged the treatment of these cases by exploratory coeliotomy.

As far back as 1606 Fallopius advocated enlarging the external opening to expose intestinal injuries and to practice enterorraphy. Between 1606 and 1849 the same opinion occurs a number of times in the literature. In 1849, however, Pirogoff definitely expressed himself in favor of a similar practice as being the only way to prevent death. He enlarged somewhat on the opinion of Fallopius and really advised more of a systematic operation. In 1863 Legouest wrote as follows: In lesions of the intestines by cutting

weapons attended by extravasation of solid or liquid contents, and in shot wounds, it is then proper to enlarge the external wound with the bistoury, to draw the intestine outward and close the solution of continuity by suture. In 1865 the very opposite opinion was expressed by Hamilton in his treatise on military surgery in which he says, be assured that the patient will have a better chance for life if we let him entirely alone, and it surprises us that any good surgeon should think otherwise, but even Erichsen, as late as 1873, subscribed to a very compromising attitude about the management of intestinal perforations. He was not at all convinced in his own mind that surgery furnished even the best, say nothing, of the only way out of the difficulty. have mentioned only a few of the surgeons whose work led up to the modern treatment of such conditions. An excellent article by McRae, of Atlanta, Ga., will give a splendid resume of the history of this subject to those who are sufficiently interested to read it. As has already been indicated, the first real logical, clear-cut and sound statement of surgical principles and practice involved in the management of perforating gunshot wounds of the abdomen, was given by the late Dr. Hunter McGuire, before the Virginia Medical Society in November, 1873. Doctor McGuire wrote as follows: "The wound in the abdominal wall should be enlarged, or the linea alba opened freely enough to allow a thorough inspection of the injured parts, hemorrhage should be arrested. intestinal wounds exist, they should be closed, trimming their edges first if they are lacerated or ragged, blood and other extraneous matter should be removed carefully, and

then, in my opinion, provision should be made for drainage. If the original wound of entrance is dependent. drainage may be secured by keeping this open. If the wound is a dependent one and the aperture of exit dependent, the patency of this should be maintained, and if necessary, a drainage glass or other material inserted. When there is no wound of exit and the aperture of entrance is not dependent, then a dependent counter-opening should be made and this kept open with a drainage tube. If it is urged that the means suggested are desperate, it can be said in reply that the peril is so extreme in cases now treated that nearly all die, and I believe by the means I have pointed out in gunshot wounds of the abdomen the patient will exchange an almost certain prospect of death for at least a good chance of recovery." So we see that the principles of surgery as laid down by Doctor McGuire, in 1873, furnish today the real ground-work for modern practice. Certainly Doctor Mc-Guire was a bold, free and original thinker, and I might add in passing, that he really did pioneer work in establishing the rational treatment of abscess appendix cases.

The next great impetus given to the management of gunshot wounds of the abdomen came from that truly creative genius and pioneer surgeon of the South, J. Marion Sims. We are in the habit of thinking of Doctor Sim's work as having to deal only with diseases of women: work, of course, in this direction was extremely great. He was, however, a most accomplished surgeon. In 1881 in an article which appeared in the British Medical Journal, Doctor Sims, in discussing the question of gunshot wounds of the abdomen, expressed the following opinion:

"Given a case of penetrating abdominal wounds, one should open the abdomen promptly, clean out the peritoneal cavity, search for the wounded intestines, pare its edges and bring them together with suture and then treat the case as we now treat other cases of injury involving the peritoneum. Rest assured that the day will soon come when, with an accurate diagnosis in such cases, followed by prompt action, life will be saved that otherwise must quickly ebb away." Shortly after Doctor Sim's paper, there occurred an article by R. A. Kinloch, of Charleston, S. C., on gunshot wounds of the abdomen treated by opening cavity and suturing intestine. The paper was published in the North Carolina Medical Journal of July, 1882, and not only reported a successful case, but in a straigtforward and comprehensive way, advised treatment of such cases by exploratory coeliotomy. This paper of Kinloch's is entitled to rank with the work of McGuire and Sims. We think it but just and fair to say that the paper of Doctor McGuire before the Virginia Medical Society in 1873, the paper by Doctor Sims in the British Medical Journal, in 1881, and the paper by Doctor Kinloch, in 1882, really established the operation and placed it on a safe and sound surgical basis. The principles laid down by them furnished the basis of surgical work today.

It is extremely interesting to note the reduction of mortality: According to Matthews, among the British soldiers in the Crimean War, the mortality in penetrating wounds of the abdomen was 92.5 per cent, and in the small per cent of recoveries the proof is not positive that all wounds were perforating. Chenu gives the mortality among the

French soldiers as 91.7 per cent. Otis has collected 3,717 cases of gunshot wounds of the abdomen during the late American war, and gives the gross death rate at 87.2 per cent, and in 2,599 cases where positive visceral injuries had taken place 92.2 per cent died. In Monihan's "Abdominal Operations," 1914 edition, you find the following paragraph:

"Doctor Fetner (Annals of Surgery, Vol. XXXV, p. 15), reports six cases of penetrating wounds of the abdomen treated by operation and gives statistical tables of 152 cases treated at the Charity Hospital, New Orleans, between January, 1892, and January, 1901. There are 96 cases of gunshot wounds of the abdomen with visceral injury. Of these 71 died—a mortality equivalent to 73.95 per cent."

Such a death rate is, of course, appalling and is now principally of historic interest. The mortality in cases operated on under modern conditions, such as the character of the projectile, is considerably lower than those of the American war. most striking thing in the whole situation has been the gradual lowering of the death rate until now it is quite common in the literature to find series of cases operated on with mortality ranging from 15 to 25 per cent, and in some instances possibly About 3 per cent lower than this. of all gunshot wounds received in battle involve the abdominal cavity and about 0.8 per cent of abdominal wounds fail to injure the intestines. In other words, 0.8 only of penetrating wounds of the abdomen fail to produce perforation of either the hollow or solid viscera. The question raised by this statement as to which cases would be explored is so

plain "that he who runs may read."

In December, 1907, at the New New Orleans meeting of the Southern Surgical and Gynecological Association, I reported a series of eight consecutive, unselected cases of penetrating and perforating gunshot wounds of the abdomen with one death. Up to the present time nineteen other cases have been added to this list, with two more deaths, and it is to this series of twenty-seven cases with three deaths that I now particularly wish to direct your attention. A brief summary of these cases may be interesting.

(1).

The youngest case operated on was seven years, the oldest fifty-seven years. The average length of time that elapsed between the shooting and operation was between eight and nine hours. The earliest case operated on was three hours, and the latest thirty-six hours after injury.

(2).

The smallest number of perforations was two and the largest twenty-two. The average number of perforations for the entire series about nine.

(3).

In five cases the injury was confined to the upper abdomen (above the umbilicus) and in three other cases both lower and upper abdomen were involved. Of the five cases in which the upper abdominal cavity was the seat of injury, once there were two perforations only in the transverse colon; three times colon, stomach and liver were injured, and once spleen and stomach. Of the three in which both lower and upper abdomen was involved, twice besides three perforations to the small in-

testines, both colon and stomach were injured, and in one case with two small intestinal holes both colon and spleen were penetrated. In the remaining ninteen cases the projectile did not enter the upper abdomen.

(4).

The ureter was divided low down in one case and we have been fortunate enough not to have had any of the great trunk vessels injured, except in two cases that died. In about ten cases there was a very serious hemorrhage from the injured mesenteric vessels.

(5).

The element of shock was very much more marked in the white than in the colored cases; in more than half of the colored cases the amount of shock present was a negligible factor, while only three out of twelve white cases were not in a condition of serious shock, there being twelve white and fifteen colored cases.

The only certain way to determine whether or not perforations have occurred is by operation, and this should be done in practically every case. There should be no surmising whether the bullet has entered the abdomen and produced perforation or not. This question should be settled by exploratory coeliotomy. Contrary to the general belief our opinion is that one should not be too precipitate in operating on these patients. I do not wish to be misunderstood here, for certainly things being equal, the surgeon who operates promptly after injury, who gets into the abdomen and out of it quickly, will have the best results. There is a vast difference between an operation quickly done and one that is hurriedly done. I am also satis-

fied in my own mind that anything like an extensive soiling with peritonitis does not and can not occur within four or five hours, and there is strong evidence to show owing to the paralysis of the bowel from the local and general shock of the trauma, that escape of intestinal contents does not occur markedly for two or possibly three hours. are convinced, therefore, from a viewpoint both practical and theoretical, that while operation should be promptly done, it should not be hurriedly done. I am on dangerous ground right here; the point I wish to make is this: Not all, but quite a few, of these cases, especially where shock is present and hemorrhage not serious, will be made safer surgical risks by allowing them a reasonable time in which to react from the primary effects of the injury. Already someone of my readers may have raised the question, how are you going to differentiate between shock and hemorrhage. My answer is it can not always be done, but to the thoughtful man, with training and experience, he will be able quite frequently to make the distinction. To me this is one of the very vital points in the paper, for we are convinced that a reasonable observance of this suggestion will occasionally turn the tide in our favor. After all, it reduces itself to a question of the surgical judgment. intuition and instinct of the individual operator.

Within limits that are reasonable, barring unusually severe injuries, the ordinary case is a good surgical risk when operated on between four and twelve hours after the injury. Someone has made the statement that the clapse of twelve hours or more between the occurrence of the accident and the performance of the

operation constitutes a contra-indication to operation. We take sharp issue with this statement and in support of the contention, submit the following: One case was operated twenty-four, one thirty-six, one eighteen, two twelve, and one seventeen hours after injury and only one of these cases died. This is considered a sufficient answer to the above. If a patient suffering from one of these injuries, presents himself for operation and has only one chance in a thousand to recover under surgical treatment, he should be given that chance and any time limit up to the point of the patient being moribund should be considered artificial.

Injuries above the umbilicus are more dangerous, harder to manage and have a higher mortality than injuries to the lower abdomen. Injuries to the large bowel we believe to be more dangerous than injuries to the small bowel, and for this reason the contents of the small bowel are fluid and move rapidly, the fecal current reaches the caecum and ascending colon where fluids are rapidly The current becomes very absorbed. In the caecum and that stagnant. portion of the large intestine where the storage is ideal for the multiplication of bacteria and the intestinal flora attain their greatest virulence.

Wounds which involve both large and small intestines are particularly dangerous, especially is this true where the portion of big bowel involved is caecum or ascending colon. When such an injury accompanied by extensive hemorrhage is present, all the conditions necessary for a rapidly developing peritonitis are at hand and the highest mortality can be expected.

Our practice is to bring the patient directly to the operating room

where he is warmly wrapped and prepared for operation. He is given enough morphine to keep him from suffering and to help him recover from shock. Unless the patient is in first-class shape, he is given intravenously one or two pints of normal salt solution. When it is not desirable to give the salt solution directly into the veins, it can be given subcutaneously. When a donor is available, the condition of hemorrhage and shock can best be met by a direct transfusion of blood. When everything is in absolute readiness, we allow according to indications, a reasonable time in which the patient can react before making the incision. The median abdominal incision is chosen under ordinary circumstances for reasons obvious to all. A very important matter in these cases is to get a correct idea of the tract of the bullet, for in this way one is occasionally able to save much time and avoid a great deal of unnecessary handling of vital parts. Particularly should we be careful in handling the abdominal viscera which are painless to the sense of touch. has been shown very recently in a splendid article in the British Journal of Surgery for October, 1914, by Charles A. Pannett, of London, that "Afferent impulses resulting from manipulation of the viscera have in general a more pronounced effect on the vasomotor center than those resulting from the opening of the abdomen and the retraction of the edges of the wound." It would seem, therefore, that the handling of the intestines which is painless in the ordinary understanding of the term, is a more serious thing than handling of the parietal peritoneum and skin which are extremely painful to injury. The principle, therefore, in

all such work, should be as gentle manipulation as possible.

It is extremely important to make a careful and systematic search of the entire intestinal tract. Our practice is to begin at some fixed point, generally at the junction of the small and large intestine, and while it is most unfortunate generally all of the small intestine has to be inspected. The large bowel can be treated with greater liberty. Each perforation is clamped as found, and healthy intestine returned to the abdomen. large bowel is then gone over. Quite occasionally it is evident from the bullet that inspection of the entire cavity would not be necessary, but this question must be left to the surgical understanding of each individual surgeon.

Whether or not to irrigate the abdomen is another point about which there is much difference of opinion. In practically all cases in this series general irrigation of the abdominal cavity, through a Blake's .two-way irrigator, was practiced. This instrument is so constructed that the entire cavity can be irrigated without losing any time whatever in the operation or exposing the viscera to any unnecessary handling. The position of the irrigator is simply changed from one point to another as desired. We have never been able to see where it was harmful to gently irrigate the abdomen with hot normal salt solution in the presence of extensive infection. The more diffuse the peritonitis, the greater the necessity for irriga-The advantages to be gained tion. by it are more than one and must be apparent to all of us. Occasionally where there is very limited soiling, irrigation has been dispensed with.

We do not practice irrigation in peritonitis from any other source.

The question has been frequently asked why do you irrigate in gunshot wounds of the abdomen and do not irrigate, for example, in a case of peritonitis from a ruptured appendix. This is a fair question and our answer is as follows: In a case of peritonitis from a ruptured appendix, there is, as a general rule, one orifice from which the infection comes. The soiling process is much slower and nature has a much greater opportunity to successfully localize and combat the spreading infection. There is, we believe, an unmistakable tendency towards successful localization of the infected area in peritonitis coming from this source, owing to the relative smallness of the peritoneal soiling, the natural forces working in the patient's behalf: to-wit, his opsonins, his leukocytes, his resistance and ability to overcome the infection and develop immunity are far greater than, for example, in a gunshot wound of the abdomen that penetrates transversely the abdomen, opens the intestinal tract in possibly twelve or fifteen places, which will surely, in a very short while, turn loose an overwhelming amount of infectious material into the peritoneal cavity. While such a patient does not develop in the full meaning of the word, a general peritonitis at once, he will certainly very promptly have a general soiling of the cavity. To put the case in a sentence, nature has a chance in one instance against what is a very small chance in the second instance. In the first case, she can care for a limited amount of soiling, in the second case the amount of infectious material is so great that she is overwhelmed. This we believe to be the dividing line between irrigation and non-irrigation. At any rate, it is the basis of our

reasoning and furnishes justification for the practice, bearing in mind always with the method described above, the cleansing of the cavity and removing of infectious debris, can be accomplished without handling of the viscera or what is even worse, pulling on the mesentery or without loss of unnecessary time.

We must also remember that hours and sometimes days will elapse between the onset of acute inflammatory process and the occurrence of perforation. All during this interval between the acute attack and perforation, nature is getting ready to take care of the perforation when it occurs. The whole natural armament has been called out. The peritoneal cavity is in a very real sense not taken by surprise, but is prepared for the accident. The omentum is on its way, the leukocytes, the turbid lymphatic exudate which we find in so many of these cases is purely a conservative process and in conjunction with the other helpers at hand in the great majority of instances will successfully localize the infection.

Dr. Hunter McGuire and Doctor Sims both insisted on drainage. In our humble opinion this was a profoundly wise judgment on their part. We drain every case. I do not wish to appear dogmatic, but the rule should be when in doubt, drain. A Keith's glass drainage tube is placed through the angle of the median incision into the Douglas pouch; depending on conditions, a small Keith's tube is so placed as to drain each loin. On the patients' returning to bed they are placed in the exaggerated Fowler position, unless the patient is so weak as to contraindicate it. This position one can get very readily by using the ordinary hospital roller chair. The continuous rectal instillation of normal salt solution is practiced unless the large intestine has been injured. We stress the point that it is necessary to be very careful about suturing any rent in the mesentery, as occasionally one can have through such a rent an incarcerated bowel with obstruction. About 5 per cent of these injuries die from tetanus, consequently on the first, fourth and sixth days after injury they are given an immunising dose of antititanic serum. If in the course of operation a segment of bowel is found with a number of perforations occurring close together, it will be conservative and occasionally lifesaving to resect the intestine instead of suturing the individual perfora-Quite occasionally we have tion. had recourse to this expedient.

In certain cases where one finds a portion of intestine of doubtful vitality, the patient's condition being extreme, a good thing has been found to bring such a piece of intestine into the wound, isolate it from the rest of the peritoneal cavity by gauze sheets; leaving it here in a safe position to watch until such time as it can be repaired should it become necessary. It is better to assume this risk than to force an already over-taxed patient to stand a prolonged operation that may be fatal.

The late Doctor Homans, of Boston, once said that nine out of ten men knew what to do, but the tenth man knew not what to do. This statement is never more applicable than in relation to the subject under discussion.

One word about the length of time in these operations and then I am done: These cases should be operated on just as quickly as is commensurate with thorough and care-

ful work and no quicker. While the work should be rapidly done, it should not be hurriedly done, for there are other questions at stake and other things to be considered than the number of minutes taken to do the work.

FRACTURES OF THE LONG BONES.

*By B. A. Henry, M. D., Anderson, S. C.

FEDICAL men are often twitted by the laity and told that they possess a peculiar advantage over other professions, in that they are able to bury their mistakes. This may happily apply to certain medical cases, such as pneumonia, typhoid fever, etc., but unhappily it does not always prevail in many cases of fractures. Especially fractures of the long bones. As many of us can bear witness to the fact that we have known people to go through life with a "hipaty hop" and live on and on and on with apparently no excuse for living, save to wear out their old clothes and keep some unfortunate doctor's mistake before the eyes of the world.

Personally I am afraid of fractures and am never called upon to treat one that I do not feel a certain amount of uneasiness and anxiety as to the results until the bandages and splints have been removed and every fellow can see for himself that the broken fragments are in apposition and the function of the limb is all right. When called to a case of fracture we all know the first and most important thing to do is to make a diagnosis, find out definitely what we have to contend with. Now, in the majority of cases and more especially in old people and in chil-

^{*}Read before the Anderson County Medical Society, March 3, 1915.

dren, this can only be done under an anesthetic, and here comes the opportunity for calling in help. I know of no conditions when consultation is more desirable and more needed than in setting fractures, and yet many of us, in order to save time and additional expense, will go ahead and endeavor to give the anesthetic and set the broken bone alone. This is bad practice and in instances where bad results are obtained, there is nothing that militates hardly so much against the professional ability of the physician and opens up an avenue for severe criticism, if not indeed in this commercial age, a suit for malpractice.

In making a diagnosis and determining what should be done, more things are to be taken into consideration than the mere bringing together the broken fragments of bone, and more especially if the fracture occurs at or near the joint. Most fractures are necessarily attended with more or less hemorrhage which infiltrates the tissues, causing some swelling and adding to the deformity which may exist from the displaced fragments of bone. The injury to these soft parts should claim our first attention, because if we forcibly apply splints and tight bandages without due consideration of these lacerated tissues we fail utterly in our results, because we will most likely have permanent contractions and other impairment to the functions of the limb. There is one point that physicians need to have impressed upon them and it is this, that broken bones need not necessarily be set post haste. There is an idea among the laity, and prevails with most of us doctors, that broken fragments should be brought together at once. Murphy says one does not have to fix the bone in its proper position at once,—he can wait until odema and swelling materially subside, even though it be six or eight days after the injury has been sustained. The class of fractures demanding our special care and skill are those occurring about the elbow and knee. should bear in mind the anatomic relations of these parts—the dense facia covering these parts are especially conducive to the development of large haematoma which compress the venous circulation and the displaced fragments of bone may be in such position as to compress the main artery of the limb, which conshould they exist long ditions. enough, would cause muscular degeneration and serious impairment if function. When we meet up with this class of cases every doctor should be impressed with the seriousness and the gravity of the situation. His own professional reputation is at stake, and likewise the comfort and easing capacity of the patient is greatly involved. In a dilemna of this kind it behooves us to stop and take an inventory of the things that we most need. In my opinion the thing that would suggest itself first would be a consultation with a level-headed doctor who had had some experience with this class of work. Next the help and finding of the X-Ray, and then a careful study of our anatomy and the pathologic conditions as they exist in each individual case. Let us bear in mind that no harm comes from waiting for the odema and swelling to subside. If there is much trauma resulting in considerable exudate. and the formation of blood clots beneath the muscular aponeurosis, and the skin becomes tense and shiny and has a woody feeling, an incision should be made to free the parts of this condition, otherwise we will have ankylosis with muscular contractions and the various sequelae that follow these cases. Having given the necessary attention to the soft parts, and the broken fragments brought together, we may proceed with the fear of the Lord still before our eyes to the application of the necessary apparatus for holding together the broken bones. Of these appliances I shall have little to say, because each individual case demands its own splint, and if we safeguard the soft parts it matters little whether we use board splints, plaster of paris. or what not.

Now what we aim at in the treatment of all ailments is, results-and especially should this be the thought uppermost in the Doctor's mind when it comes to the treatment of fractures, because the happiness, the comfort, the earning capacity of the patient is involved, and the Doctor's reputation is most conspicuously at stake. The best results can only be had by a thorough conscientious understanding between doctor and patient, or doctor and family. Let the doctor lay special emphasis on what he expects of his patient, and let the patient know that it is only by the carrying out of these instructions need he look for or expect the best results. A decided unequivocal stand taken by the doctor in the beginning of cases where patients are to be confined to bed with fracture will often times save him much annoyance, both during the healing process and afterwards.

CASE REPORTS.

W. S. Scott, age seventy (70) years, in an elevator accident of August 28th, sustained a fracture of both legs. There was a simple fracture of the tibia of the left leg, about

half way between the knee and ankle. In the right leg there was a compound fracture of the femur, four or five inches above the knee joint, with upper fragment piercing through the soft parts. The lower fragment was split in the long axis of the bone down to the joint. The patient was anesthetised and the displaced fragments were placed in position. The wound was filled with iodine and gauze wick placed in the open wound. This wick was removed on the third day, there being no pus, no infection. Long internal and external splints, with short anterior and posterior splints, were applied so as to gain absolute fixation. These splints were removed after six weeks and plaster casts applied. Patient was then allowed to be up in rolling chair. Plaster cast removed November 1st, wound perfectly healed, and there is fairly good motion in knee, is able to bear some weight on leg and will have a fairly normal knee joint.

NOTICE.

Columbia, S. C.. March 12, 1915.

Dr. E. A. Hines,

Anderson Hospital,

Anderson, S. C.

Dear Doctor Hines:

I will appreciate it if you will have the following notice published in the State Medical Journal:

At the annual meeting of the Executive Committee of the State Board of Health, to be held at Greenwood. April 20th, there will be an election for the position of Medical Superintendent of the State Tuberculosis Hospital to be opened at State Park, near Columbia. Salary \$1,500.00 per annum, fuel, lights and board. A married man preferred. Applicants will state age, previous experience, college and year

of graduation, and such other facts as they may deem pertinent.

A matron and a graduate trained nurse at \$600.00 each, per annum, fuel, lights and board, will also be - elected at this meeting.

Secretary, State Board of Health, Columbia, S. C.

Trusting that this will reach you in ample time, I am,

Yours truly,

JAMES A. HAYNE, M. D., Secretary State Board of Health.

SOCIETY Secretary State Board of Health.

AIKEN.

The regular monthly meeting of the Aiken County Medical Society was held at the Thestone Opera House, on Monday, the 18th day of December. Owing to the inclement weather, and the terrible condition of the roads there was not a very full attendance. As it was the day appointed to elect officers, delegates to the State Medical Association, the meeting was given up to this purpose with the following results:

Dr. Hastings Wyman, Jr., President; Doctor Webb, Vice-President; Dr. R. M. Hammond, Secretary and Treasurer.

The delegates to State Convention of last year were continued.

With the election of Dr. Hastings Wyman, Jr., to the office of President the members feel that they have an energetic and enthusiasatic officer, and one who will lend all his power and influence in building up the Society.

T. G. CROFT, Reporter.

ANDERSON.

The mid-January meeting of the Anderson County Medical Society was held Wednesday, January 20th, with a full attendance.

Sloan being a guest at this meeting. President, Dr. B. A. Henry, presiding.

After the reading and adoption of the minutes of the last meeting Doctor Ross brought up the subject of illegal practitioners of medicine, and as a result a committee was appointed to look into this matter and see what could be done along this line. Doctor Ross being chairman of the committee.

Privilege of the floor was unanimously granted Doctor Hines until he sees fit to join with us.

The following scientific program was carried out:

1. Homeopathy.—A most interesting paper by Dr. A. L. Smethers.

2. Report of a Case—Pregnancy accompanied by Nephritis, Amblyopia also developing, by Doctors Smethers and Nardin.

The above were very generally discussed by those present.

The program for the first meeting in February was announced as follows:

- 1. Report of an Unusual Case of Expistaxis, by Dr. W. H. Nardin.
- 2. Random Observations of Medical Europe, by Dr. E. A. Hines.
- 3. Fractures of Long Bones, by Dr. B. A. Henry.

Dr. J. L. Gray was asked to be re-

sponsible for the scientific program for the first meeting in March.

The two February meetings of the Anderson County Medical Society were held February 3d and 17th, respectively, with a good attendance at both meetings.

At the first meeting Mr. S. M. Wolfe was unanimously elected actorney for the Society. With his assistance our Society will attempt to form some plan that may prove effective in controlling the illegal practice of medicine.

During the scientific session the unusual case of Epistaxis reported by Doctor Nardin proved most interesting and instructive. Also valuable points were brought out in the discussion by Doctors Ross, Young, J. C. Harris, and Duckett.

Doctor Hines' talk, "Random Observations of Medical Europe," was a delight to all. This was made all the more interesting by the exhibition of pictures of points and objects of special interest.

Owing to the lateness of the hour Doctor Henry's paper on Fractures was continued to some future meeting.

At the second meeting the president being out of the city the meeting was presided over by the Vice-President, H. A. Pruitt. We were especially pleased to have with us at this time our Councilor, Dr. C. B. Earle, and Dr. E. W. Carpenter, of Greenville.

The following scientific program was carried out:

1. Diagnosis and Symptoms of Gastric Affections, by Dr. W. F. Ashmore.

Doctor Ashmore dwelt especially on the value of the X-Ray in diagnosing these affections, and he showed many interesting plates of cases in which the diagnosis was made in this way.

- 2. Surgical Treatment of Some Gastric Affections—Prepared by Dr. J. C. Harris, in his absence read by Dr. C. F. Ross.
- 3. Medical Treatment of Some Gastric Affections, by Dr. H. H. Acker.

All of the above papers were ably discussed by Doctors Earle, Ross, and Young.

Dr. Wade Thompson was asked to be responsible for the scientific program for the second meeting in March, after which the meeting was adjourned.

OLGA V. PRUITT, Secretary.

COLUMBIA.

The Columbia Medical Society held its regular monthly meeting February 8, 1915, with forty-two members present and four visiting dentists.

The following papers were read and discussed:

"Typhoid Perforation" by Dr. S. E. Harmon. Discussed by Dr. Heyward Gibbes, Dr. H. W. Rice, Dr. Lindsay Peters.

"Diagnosis of Fracture of the Base of the Skull," by Dr. J. H. Taylor. Discussed by Dr. R. W. Gibbes.

"Pharmacology of Scopolamine," Dr. Heyward Gibbes. Discussed by Dr. J. H. Taylor, Dr. N. B. Heyward, Dr. F. M. Durham, Dr. J. H. McIntosh.

"Tuberculous Adenitis of the N.ck," Dr. G. H. Bunch. Discussed by Dr. J. H. Taylor, Dr. N. B. Heyward.

"Emetine Treatment of Pyorrhea Alveolaris," Dr. N. B. Heyward. Discussed by the following dentists and physicians: Dr. T. T. Moore,

Jr., Dr. P. D. Brooker, Dr. E. G. Quattlebaum, Dr. F. C. Gilmore. Dr. W. S. Lindsay was not present, but he had worked in conjunction with Dr. N. B. Heyward trying out the efficacy of the emetine treatment in several cases of Pyorrhea Alveolaris with encouraging results. Physicians who discussed the paper were: Dr. Wm. A. Boyd, Dr. Fred Williams, Dr. C. L. Kibler, Dr. P. V. Mikell, Dr. L. K. Philpot.

Dr. Wm. A. Boyd kindly demonstrated the Pulmotor as used in the resuscitation of asphyxiated persons. By means of a rubber bag attachment he illustrated how the lungs can be inflated and deflated in a rythmic manner synchronous with normal respirations.

For the lack of time several valuable papers were carried over to the March meeting.

Motion carried to retain the Young Men's Christian Association Building in which to hold our meetings.

> EDYTHE WELBOURNE, Secretary.

DARLINGTON.

The Darlington County Medical Society met at Hotel Darlington, in Darlington, S. C., February 18th, at 8:00 o'clock P. M. Only a few members were present.

Dr. J. W. Willcox reported two very interesting cases of cut throat, and another of fracture of the skull.

We held our annual election of officers and the following were elected:

President—J. T. Coggeshall, Darlington, S. C.

Vice-President—J. P. Harrison, Hartsville, S. C.

Secretary—R. B. Smith, Lamar, S. C.

Treasurer—J. W. Willcox, Darlington, S. C.

Censors—G. B. Edwards, Darlington, S. C.; R. B. Stith, Lamar, S. C.; C. C. Hill, Darlington, S. C.

The Society will meet again on March 3d, at the residence of Dr. C. C. Hill, in Darlington, and we hope to have a large number present.

Yours very truly,

J. T. Coggeshall, Retiring Secretary, Darlington County Medical Society.

ORANGEBURG.

The regular monthly meeting of the Orangeburg County Medical Society was held January 19th, and the following officers were elected to serve during 1915:

President—Dr. W. R. Lowman. Orangeburg.

Vice-President—Dr. J. F. Carter, Bowman.

Secretary and Treasurer — Dr. Vance W. Brabham, Orangeburg.

Board of Censors-Dr. L. C. Shecut, Chairman, Orangeburg; Dr. G. W. Nevils, Rowesville; Dr. A. W. Browning, Elloree.

Delegates to State Association-Vance W. Brabham, Orangeburg; T. A. Jeffords, Orangeburg.

Alternates—A. W. Browning, Elloree; G. W. Nevils, Rowesville.

The subject for discussion at the scientific session was "The Best Method of Conducting a Case of Normal Labor." The discussion was opened by Dr. C. I. Green, and freely discussed by many of those present.

VANCE W. BRABHAM,

Secretary.

ORANGEBURG.

Program of the Tenth Semi-annual Meeting of the Second District Medical Association, Orangeburg, S. C., Tuesday, February 23d, 1915.

Meeting called to order at 11:30 A. M.

Prayer—by Rev. W. B. Duncan, D. D., Orangeburg, S. C.

Address of Welcome—by Dr. W. R. Lowman, President, Orangeburg County Medical Society.

Response—by Dr. T. H. Dreher, St. Matthews, S. C.

Address of President—Preventive Medicine—Dr. J. J. Cleckley, Bamberg, S. C.

Paper—A Study in the Early History of Pellagra—Dr. J. W. Babcock, Columbia, S. C.

Paper—Gonorrhea—Its Late Manifestations—Dr. G. F. McInnes, Charleston, S. C.

Clinic—Presentations of Interesting Cases.

Business session. Adjournment.

Dinner.

Vance W. Brabham, Secretary-Treasurer.

SPARTANBURG.

The Spartanburg County Medical Society held another excellent meeting on February 26th. The attendance was very large and the members listened with great interest to the very fine discourse on general anesthesia by Dr. J. E. Edwards. Doctor Edwards commenced with the mention in the Bible of the use of mandrake to give a feeling of happiness and good will, and carried his listeners on through the use mulberry wine by the Indians, and then to the beginning of the use of real anesthesia, in 1766, when nitrogen and oxygen were discovered, through the use of ether at quilting parties given in Anderson, S. C., to make the participants happy, until finally,

first used it while performing a surgical operation. Doctor Edwards then described the manner of administering a general anesthesia as practised in large hospitals today, and stated that nitrous oxide gas is the one most used. He explained how ether floats in the blood and combines with protein in cells and affects the whole body, and how chloroform causes degeneration in the liver cells. In Doctor Edwards' opinion, for small operations, if given by the slow-drop method chloroform is safe but ether is best in the hands of the general practitioner. The discussion was led by Dr. W. W. Boyd who stated that he knew very little about nitrous oxide gas, but was familiar with the use of chloroform and ether. He advised that in giving the former you must have an abundance of air, and in the latter you must have it nearly all cut off. Doctor Boyd reported one patient, a small child with naso-pharynx and throat completely filled with adenoids and enlarged tonsils nearly died under ether anesthesia, and reported another who seemed to have an idiosyncrasy for ether, but who took chloroform well on two accasions. Doctor Boyd stated that nearly all deaths reported from anesthetics occurred because the patient was permitted to come from under and then given more of the anesthetic.

in 1844, Doctor Long, of Georgia,

Doctor Black stated that ether is the safest of all anesthetics, and reported several instances where chloroform was almost fatal, he uses chloroform exclusively in obstetrical work because it is quickest, has had two cases of ether pneumonia in his practice. He believes that the anesthetist should be trained, and that next to the operator he is the most important during a surgical operation.

Doctor Potts laid special stress on not talking while a patient is being anesthetised, as the patient may begin laughing and the laughter become fatal.

Doctor Norman wished to know what causes the patient to die, and given a patient with heart weakness who requires an operation, what is to be done?

Doctor Williams believes chloroform safest in obstetrical work and always uses it, but a few times, when he did not have it, used ether, and in all of these cases had post-partum hemorrhage, but never when using chloroform.

Doctor Cudd said that he was taught that where the patient had any heart trouble he must be given ether, but where there was kidney trouble chloroform must be used. For past five years he has always given sparteine every four hours, and plenty of water as immediate post operative treatment, in his opinion, whenever ether caused death it was not fresh and had deteriorated.

In closing Doctor Edwards stated that it was the replacing of proteid matter in the cells and suddenly cutting off the oxygen in them that caused death. He reported having seen a patient die from ethyl-chlorid anesthesia, he believes that nitrous oxide gas is the anesthetic for general use in the future and that all hospitals will be equipped for its administration.

Doctor Cudd discussed the birth registration law, and on motion of Doctor Williams, the Secretary, was instructed to write to the Secretary of the State Board of Health and ask if the rules can not be so amended as to allow the physicians in rural districts to report directly to the State Registrar and collect the fees. In several instances the physicians are twelve and fifteen miles from their township registrars and it is very inconvenient for them to register births and deaths.

The Society then adjourned to the Gresham Hotel where Doctor Haynes entertained the members at dinner, this was a pleasant surprise and very much enjoyed by those present.

L. ROSA H. GANTT,

Secretary.

EIGHTH DISTRICT MEDICAL ASSOCIATION.

The Eighth District Medical Association met at Batesburg January 19th, and this like all meetings of the Association since its organization three years ago was a very enthusiastic one, and was largely attended. We had with us as our guests, Doctors Taylor, Bunch, Wyman, and Hayne, all of Columbia, each of these gentlemen read most excellent and instructive papers. Following is the program:

"Tuberculous Cervical Adenitis."
—Dr. George Bunch, Columbia.

"Illustrating the Value of Error in Diagnosis."—Dr. J. H. Taylor, Columbia.

"The Cystoscope as a Means of Diagnosis."—Dr. M. H. Wyman, Columbia.

Address of the President: "Some Patent Medicines and Nostrums."—Dr. R. H. Hammond.

"Impetigo Contagiosa."—Dr. J. B. Edwards.

"Influenza."—Dr. D. B. Frontis.

"Poverty as a Cause of Tuberculosis."—Dr. D. B. Keisler.

The Association was entertained at the Hotel Batesburg by the local physicians in great style, this is always one of the features of our meetings that every one enjoys—and on this occasion our minds as well as our stomachs had a royal feast.

Our next meeting will be at Aiken in July.

Robt. A. Marsh, Secretary.

BOOK REVIEW

FEVER—ITS THERMOTAXIS AND MET-ABOLISM.—By Isaac Ott, A. A., M. D., Professor of Physiology Medico Chirurgical College, Philadelphia; Member of American Physiological Society; Ex-President of American Neurological Association, etc.

These lectures were delivered at the Medico Chirurgical College. They have been thought worthy of publication, as the subject is one of maximal importance in the practice of medicine. The studies upon this subject have occupied the author for forty-five years, as a practitioner of medicine, and physiologist.

There are three lectures as follows: Fever—Its Thermotaxis and Metabolism; Heat Dissipation or Thermolysis; Malarial Fever and the Metabolism.

The author has undertaken a timely subject. While we do not yet know all of the definite causes of fever, we should encourage investigators to continue their good work. The writer of this volume has given many years of his life to this investigation and has placed the results before the profession in a highly creditable manner. Cloth, 166 pages; 14 illustrations. Price, \$1.50 net. Paul B. Hoeber, Medical Publisher, 67-69 East 59th Street, New York, N. Y.

CANCER—ITS CAUSE AND TREAT-MENT.—By L. Duncan Bulkley, A. M., M. D., Senior Physician The New York Skin and Cancer Hospital.

Cancer has hitherto been regarded almost wholly from its histological and surgical aspects. But relatively little attention has been paid to the dietetic and medical aspects of this most threatening malady, although voices have been raised from time to time, with more or less force, claiming that the basic cause of the disease is constitutional, and that it depends largely on diet and mode of life.

In the present book the author has collected from literature and analyzed the evidence of the constitutional nature of cancer, and presents his own experience in its dietetic and medical treatment, during the past thirty years, with reports of cases.

As cancer is steadily increasing the world over, with a mortality of fully 90 per cent of those once affected, and with over 50,000 deaths from this disease in the United States in 1913 (an average of 12 deaths from it daily in New York City), this contribution to the solution of the cancer problem is most timely and should be highly welcomed by the profession.

Contents.

Nature of Cancer. Frequency and Geographical Distribution of Cancer. Metabolism of Cancer. Relation of Diet to Cancer. Medical Treatment of Cancer. Clinical Considerations and Conclusions.

8vo., cloth, 224 pages. Price, \$1.50 net, postpaid. Paul B. Hoeber, Medical Publisher, 67 69 East 59th Street, New York.

DIAGNOSTIC AND THERAPEUTIC TECHNIC.—Second Edition, Thorougly Revised.—Diagnostic and Therapeutic Technic. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, M. D., Clinical Professor of Surgery, New York Polyclinic. Second edition, thoroughly revised. Octavo of 834 pages, with 860 illustrations. Philadelphia and London: 1915. Cloth, \$5.00 net; Half Morocco, \$6.50 net. W. B. Saunders Company.

Doctor Morrow has given us one of the most practicable books we have reviewed for a long while. It is the author's claim that no other single book contains this peculiar compilation of information; the illustrations are particularly valuable and numerous. This is one of the strongest features of the book and serves an admira-

ble purpose in the scheme of imparting the desired information. It is a work of nearly a thousand pages and covers the subject in a comprehensive manner.

DIFFERENTIAL _DIAGNOSIS.— Volume II.—Differential Diagnosis. Presented through an Analysis of 317 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 709 pages, 254 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth. \$5.50; Half Morocco, \$7.00.

Cabot's Diagnosis has become one of the most authoritative volumes in American Medicine. Volume two just from the press has been greatly amplified, and should prove of intense interest to every practitioner of medicine and surgery. The Case method of teaching has a well deserved place in the teaching of modern medicine. We heartly commend the book.

QUESTIONS OF THE STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA, NOVEMBER, 1914.—Con.

Dr. A. Earle Boozer, Examiner.

Chemistry—Junior Curriculum.

- 1. What is Na Cl? What is its function in the animal economy?
- 2. To what are the bleeching and antiseptic properties of Hydrogen Dioxide due?
- 3. What kind of water is especially dangerous when used with lead pipes?
- 4. Upon what principle is the thermometer constructed and why are newly-made thermometers liable to be incorrect?
- 5. In electrolysis of tumors, what needle should be inserted into them; which is aneurisms and why?

Urinalysis, Microscopy, Toxicology and Medical Jurisprudence—Senior Curriculum.

- 1. Urine on standing undergoes what change in reaction and why? What effect does this change have upon the constitutents of the urine?
- 2. What is the clinical significance of the presence of free uric acid in the urine?
- 3. Give in detail two reliable tests for albumin in the urine.
- 4. What are the most frequent normal deposits seen in urine under the microscope?
- 5. What are the dangers from the use of Salol in large doses?
- 6. What is the antidote for nearly all alkaloids and explain its action.
- 7. Give symptoms, treatment and chemical antidote for Arsenic poison. What disease does it simulate?
- 8. Give the medico-legal definition of a wound.
- 9. Under what circumstances is a physician justified in producing an abortion? What would be your procedure in such a case?
- 10. When death is due to violence how would you tell whether it was an accident, a homicide or a suicide?

Dr. E. W. Pressly, Examiner.

Nurses:-Obstetrics.

- 1. Define obstetric nursing, pregnancy, the puerperium, and labor.
- 2. Give a description of the preparation for a normal labor, and an account of such a labor.
- 3. Give management of normal puer-perium.

Leucocyte Extract, Squibb

Prepared from healthy leucocytes according to Hiss. Indicated in general acute systemic infections where bacteriological diagnosis is uncertain. Also used in conjunction with the specific serums and vaccines in the treatment of <u>Erysipelas</u>, <u>Meningitis</u>, <u>Lobar Pneumonia</u>, Septicemia, Pyemia and Furunculosis. :-: :-:

No contra-indications are known. For clinical reports address:

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- 4. Give management of a case of postpartum hemorrhage occurring in the absence of a physician.
- 5. In a case of puerperal sepsis give management of patient to prevent a bed sore forming, and in case a bed sore develops, give management of same.
- 6. Give management of bleeding from the umbilicus, and the meaning and management of a protruding umbilicus in the new born.
- 7. Give causes that may occasion the small bright red eruption (erythema neonatorum) over almost the entire body of infant in first few weeks of extra uterine life, and management of the same.
- 8. Give management of prematurely born infant.
- 9. Describe the enlargement of the breasts that sometimes occurs in the newly born, both male and female, and give management of the same.
- 10. Describe the technique of a catheterization in a puerperal patient.

Dr. J. T. Taylor, Examiner.

Nurses:-Anatomy.

- 1. Name the cavities of the heart.
- 2. What artery carries venus blood?
- 3. Where would you make pressure upon the femoral artery to control hemorrhage at any point in the lower extremity?
- 4. Name from above downward the divisions of the alimentary canal.
- 5. Name the bones of the arm and name the bones with which it articulates.

Dr. Harry H. Wyman, Examiner.

Nurses:-Surgery.

- 1. Prepare a patient for a general anaesthetic and give care of patient after an anesthetic.
- 2. After an operation, clean up the operating room and everything used.
- 3. Of what use are iodine, bichloride of mercury and lysol in surgery. How is each used.
 - 4. Prepare a plaster of Paris bandage.
- 5. How would you bandage for fracture of a clavicle.
 - 6. Describe various perineal bandages.
- 7. How would you tell that a bone in a limb was fractured and how would you treat it in an emergency.

- 8. What would you do to relieve retention of urine?
- 9. What is septicemia. How may a nurse cause it and how prevent it?
- 10. How would you syringe an ear with ruptured abscess and what solutions would you use?

Dr. A. Earle Boozer, Examiner.

Nurses:-Practice of Nursing.

- 1. What are the channels of service for a graduate nurse outside of duties for which she receives pecuniary return?
- 2. Give your method of preparaing patient for examinations abdominal and vaginal, both instrumental and non-instrumental.
- 3. Give method of care and sterilization of catheter. Give in detail procedure for catheterization of patient.
- 4. Give methods for arresting hemorrhage, external and internal.
- 5. How would you prepare for and administer a typhoid tub bath.

(Continued in next issue.)

\$5

A few items from our fee list.

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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

Come to Greenwood, Doctor!

Let us make this the greatest meeting yet. Come prepared to discuss every paper.

On to Greenwood

REENWOOD extends a most cordial welcome to the members of the South Carolina Medical Association.

Greenwood's hospitality is one of the city's real assets and Greenwood will have no limit when the physicians of the State are its guests.

Greenwood is one of the most accessible points in the State. It has three steam railroads, The Southern, Seabord Air Line, Charleston and Western Carolina, the three running in six different directions, and in addition to this is the Piedmont & Northern Interurban System, with cars about two hours apart between Greenwood and Spartanburg. The railroad facilities of Greenwood are almost unsurpassed in the State. They make Greenwood a great distributing center, and also pre-eminently desirable as a home for the traveling man. The traveling salesman can live in Greenwood and cover more territory in the day time, coming back home at night, than he can from any other town in the State.

Greenwood has another asset of great importance and attractiveness to the traveling public in its magnificent new five-story fireproof hotel, the New Oregon. "Good wine needs no bush," and it is surperfluous to enumerate the advantages and comforts of this hotel. It is praised by many as the best hotel in the State, and the proprietor, H. J. Brinson, has



THE OREGON HOTEL

outstripped previous achievements in the furnishings and equipment. The hotel is a fireproof building, the second fireproof hotel in the State. It has eighty-six rooms, practically each one with bath. Its dining room will accommodate double the capacity of the hotel and its service is unsurpassed. A traveler who has visited every State in the Union remarked a few days ago that in his deliberate opinion, the Oregon was the best hotel of its size in the United States. Such a compliment may seem extravagant to those who do not know the Oregon, but to those who do it seems no more than simple justice.

Greenwood's population continues to increase and its growth has been one of the marvels of the past two decades in the South. It has grown from the number of 1,600 inhabitants in 1890 to 10,000 or over at this time. No stronger proof of growth could be cited than the continued increase in post office receipts. The post office receipts at Green-

wood for 1914 were \$3,000 greater than for 1913, and this despite the hard times for the last half of the year, a period of greater depression in business than the South has had in half a century.

Greenwood has taken a front row position "In the sun" as an educational center. It has one of the best public school systems in the State, with enrollment of approximately 2,000 children, housed in two splendid brick buildings with every modern convenience. The public school system is supplemented by two higher institutions of learning, viz: Lander



LIEUTENANT BOWEN, TWENTIETH U. S. INFANTRY, AND COMMISSIONED OFFICERS BAILEY MILITARY INSTTUTE.

College for young ladies and Bailey Military Institute for young men. Lander College is owned and controlled by the Upper South Carolina Conference. The first building was erected by the citizens of Greenwood and presented to the Methodist denomination. Later a large addition was made to this building by the denomination in Willson Hall, named in honor of Dr. John O. Willson, the beloved president of the College. Lander ranks high among the female colleges of the State. Its graduates are noted for their thorough scholarship and for the marked development of womanly graces and charming manners. Lander College had over two hundred and fifty students last session, one hundred and twenty-five being in the building department and represented every section of State. Lander's curriculum includes all that is high and best in the truly cultivated sense and its professors are trained experts in their respective departments.

Bailey Military Institute is the highest military preparatory school in the State. It ranks with the Citadel and Clemson in its military life in that it has a regular United States Army officer detailed to teach military science.

In addition it is regularly inspected annually by an army officer. Leut. Geo. C. Bowen, U. S. A., is the army officer detailed as a regular member of the faculty. Col. F. N. K. Bailey is the superintendent of the



ON THE SQUARE-GREENWOOD

school and he has an able faculty of eight professors. The buildings are all new, having been erected in 1913. The barracks will accommodate one hundred and fifty-five young men and at the opening session over twenty-five applicants were turned away for lack of room.

THE GREENWOOD HOSPITAL.

A little more than four years ago, a number of public spirited women of Greenwood decided they could not afford to allow their city to be without a hospital when other towns all around were either building hospitals or had already equipped themselves with hospitals which were a credit to them. While a few had felt the need of a hospital the majority were skeptical of the ability of the community to build and maintain one, and many men shared this opinion.

Undaunted by this condition, these earnest women with the help of a few zealous men organized a Hospital Association. Soon their enthusiasm spread until many joined in the work. The next step was to secure funds and the fund was started by the proceeds of entertainments, many and various, moving pictures, fairs, bazaars, contributions and subscriptions.

A year later the members, in order to become a more definite body, resolved to incorporate under the name of the Greenwood Hospital Association, and were incorporated a few months later. More men became interested and a subscription list was started to solicit stock. Soon about one-third of the necessary stock was subscribed and work was started in earnest. A lot was purchased in Southwest Greenwood, a most desirable location, and work was started some months later on the first building.

The third month of its existence the hospital cleared almost enough to make up the deficit of the first two months and each month since the reports show a good amount above expenses. Skepticism has vanished and the institution is regarded as one of the most stable and useful in the town.

A little over a year ago the Hospital was placed on a firm foundation by the noble generosity of the late William H. Bailey. He made a donation of \$5,000 which wiped out the indebtedness of the institution. This generous act enabled the Association to make many necessary improvements on the place. Being out of debt the management was emboldened



THE HOSPITAL

to make plans for a Nurse's Home. This splendid new building is now occupied.

During the three year's of its existence the Hospital has had admitted 685 patients. Five hundred operations have been performed and thirty-six deaths have occurred, averaging one death per month, a very small death rate.

The Hospital is controlled by the Greenwood Hospital Association, of which Mrs. E. D. Andrews is president, and Mrs. Howard B. Ellis is treasurer. Miss Sara A. Rogers, of Philadelphia, is the superintendent and Miss Cobb is head nurse. There are six probationers, so that the nursing staff consists of eight persons. A training school for nurses is maintained, known as the Millwee Training School for Nurses. Two graduates have been given diplomas by this school. Three charity beds are maintained, one by the Association and two by the city council of Greenwood. These are in use all the time. The rooms were furnished by individuals, in most cases as memorials to a friend or departed loved one.

CONNIE MAXWELL ORPHANAGE.

Connie Maxwell Orphanage, now full twenty-three years of age, is one of the interesting places in Greenwood. One of the most influential citizens of Greenwood, and for many years her leading physician, is affectionately remembered as the founder of the institution. Dr. J. C. Maxwell and his good wife, Miss Sara R. Maxwell, upon the death of their only daughter, Connie, in the year 1884, decided that they would give their entire property to some active benevolence.

In 1891 when the Baptists of South Carolina were agitating the matter of establishing an institution for the care and education of orphan



THE POST OFFICE

children, Doctor and Mrs. Maxwell made the Committee an offer. They suggested that if the proposed institution should be located at or near Greenwood and should be allowed to bear the name of their little daughter Connie, deceased, that they would give practically all their property to its foundation.

The Committee from the Baptist Convention met in Columbia in April, 1891, and accepted the generous offer of Doctor and Mrs. Maxwell. Work on the first building was begun in November, 1891, and on the 22d day of May, 1892, the first child was received into Connie Maxwell Orphanage. The institution has grown with gratifying progress during the years, and at the present time is caring for two hundred and fifty orphan boys and girls, and has an annual expense budget of about thirty thousand dollars. Twenty odd buildings now adorn the grounds, and there are six hundred and twenty-seven acres of land in the tract.

Doctor Maxwell lived until August, 1899, and during that time was the beloved physician for the institution that he had been so deeply interested in establishing. He cheerfully gave his services to the inmates, and until his health began to fail, was the only physician ever called. After his health ceased to be robust, his partner, Dr. G. B. Neel, did most of the medical practice at the Orphanage, and kept up the work for several years after Doctor Maxwell's death.

Mrs. Maxwell lived until April, 1902, nearly ten years after the

opening of the institution.

The Rev. J. L. Vass was the first superintendent, and served eight and a half years in that capacity.

The Rev. A. T. Jamison came to the superintendency June 1, 1900, and has served continuously sinec that time in this position.

For a number of years the Connie Maxwell Orphanage placed children in famliy homes whenever they For more than ten years opened. this custom has been discontiued. The Trustees decided that it was more nearly in harmony with Doctor Maxwell's ideals for the institution to make of it a school and a home rather than a temporary asylum for the orphan boys and girls. quently more attention has been paid to the school, and ten grades have been kept up for the past decade.

The institution owns property worth about two hundred and fifty thousand dollars, and in the center of the group of buildings stands the Maxwell Building, which is devoted to school purposes. Eight large school rooms comfortably meet all



CONFEDERATE MONUMENT

the needs and will likely meet the need for some years to come.

As is well known the institution is established on what is known as the cottage plan. Each cottage has its own kitchen and dining room, and the matron, or house mother, has in each cottage entire care of the group of twenty-four children placed in her charge.

The original body of trustees elected in 1891 contains the following familiar names: Dr. J. C. Maxwell, President; Rev. W. P. Hunley, Vice-President; J. K. Durst, Secretary and Treasurer; Rev. J. L. Vass, Superintendent; Rev. J. D. Pitts, Judge W. F. Cox, J. W. Sproles, P. Presley Smith, H. P. McGee, E. M. Lipscomb, S. P. Brooks, J. W. Wilks, and W. H. Lyles.

The Orpharage has practically no endowment, but its income from the Baptist churches and Sunday Schools of the State has been steadily increasing year by year. Many individuals who are interested in its beneficient work make contributions to its maintenance, but the effort has been made year by year to systematize and increase offerings from churches and Sunday Schools.

Children on the roll of inmates represent nearly every religious faith as well as persons of no religious faith whatever. That is to say the parents of the children represent many religious bodies. While the Baptist denomination has been the chief supporter there has never been applied any test that related to the religious faith of the parents. If a child is destitute and orphan, he is received with open arms and given everything that the institution is able to provide in the way of helpful and stimulating advantages.

Here are some nuggets about Greenwood.

Owns its own electric light and water plant. Water supply pure and abundant, artesian wells. Electric current, day time, unlimited as to present population. Rates on water and lights lower than any other city of its size in the State.

Best hotel in the State.

Twenty-five miles of sewerage.

25,000 square yards street paving, Vitrified brick.

18,000 square yards sidewalk paving, more now being put down.

Six-story fireproof office building.

Three-story fireproof office building.

\$10,000 City Hall.

Paid Fire Department. Auto Fire Truck.

Gamewell Fire Alarm System.

Telephone system covering all sections of the county.

Seven cotton mills, in county. Five in Greenwood city.

Eleven banks in the county, four in Greenwood city.

Altitude 681.

Mean temperature, 52.

Four railroads—Southern, C. & W. C. (operated by Atlantic Coast Line), Seaboard and Piedmont & Northern System, an interurban line between Greenwood and Spartanburg. Twenty-eight passenger trains daily.

Drawing population 20,000.

Four wholesale grocery companies.

Two wholesale fruit companies.

"Greenwood is a Better Place to Live."

H. L. WATSON, Secretary, Chamber of Commerce. FINAL PROGRAM OF THE SIXTY-SEV-ENTH MEETING OF THE SOUTH CAROLINA MEDICAL ASSOCIATION, TO BE HELD AT GREENWOOD, S. C., APRIL 20, 21, 22, 1915.

(Subject to rearrangement on official program sent each member).

Place of Meeting—Knights of Pythias Hall.

Address of Welcome—Hon. W. H. Nicholson (Chamber of Commerce).

Address of Welcome—Dr. J. D. Harrison (Medical Society).

Tuesday Evening—Smoker (Oregon Hotel).

Wednesday Evening, 8:30—Reception at Lander College.

Dr. Howard Kelly, of Baltimore, will deliver an address as follows: "The Use of Radium in Surgery."

Dr. W. S. Thayer, of Baltimore, will deliver the address in medicine—"Therapeutical Reflections."

Information in regard to all entertainments will appear on official program.

The House of Delegates will convene at 10 A. M., Tuesday, April 20th. Delegates should be sure to bring credentials.

The Hotel Oregon will be headquarters.

Papers.

- "What a Community Has a Right to Expect of Its Physicians"—Dr. E. W. Pressly, Clover, S. C.
- "The Better Way of Putting a Diaper on the Baby"—Dr. S. A. Visanska, Atlanta, Ga.
- 3. "Milk in Diet of Infants and Children"—Dr. D. L. Smith, Spartanburg, S. C.
- 4. "Pyelitis: Diagnosis and Treatment, With Report of Cases"—Dr. W. R. Barron, Columbia, S. C.
- 5. "The Skin Diseases of Childhood"— Dr. I. Schayer, Columbia, S. C.
- "A Consideration of Peri-colic Membranes, With Report of Five Cases"
 —Dr. J. H. Taylor, Columbia, S. C.
- 7. "Gunshot Wounds of the Abdomen, With Report of Cases"—Dr. S. R. Harmon, Columbia, S. C.
- 8. "Forty-six Cases of Intubation"—Dr. E. W. Carpenter, Greenville, S. C.
- "Roentgen Ray Diagnosis of Fracture and Bone Lesions"—(Lantern Slides)
 —Dr. A. R. Taft, Charleston, S. C.
- 10. "Endamebiasis of the Mouth"—Dr. K.
 M. Lynch, Charleston, S. C.

- 11. "Some Problems in Infant Feeding"— Dr. W. P. Cornell, Charleston, S. C.
- "Therapeutic Value of Mineral Waters"
 —Dr. F. L. Parker, Charleston, S. C.
- "Some Medical Needs of South Carolina"—Dr. G. E. Thompson, Inman, S. C.
- "The Diagnosis of Incipient Tuberculosis"—Dr. N. B. Egerton, Columbia, S. C.
- 15. "Internal Medicine as a Specialty"— Dr. J. H. Gibbes, Columbia, S. C.
- 16. "The Infected Individual—a Public Danger and a Public Problem"—Dr. G. F. Klugh, Cross Hill, S. C.
- "Recent Observations in Stomach Surgery"—Dr. R. T. Ferguson, Gaffney, S. C.
- "Disorders of the Pituitary Gland—Report of Case"—Dr. N. B. Heyward, Columbia, S. C.
- "A Word as to Optometry"—Dr. Theo.
 A. Quattlebaum, Columbia, S. C.
- 20. "Experiences With Emetine in Dysenteric Conditions"—Dr. H. L. Shaw, Fountain Inn, S. C.
- 21. "Diphtheria Contact in the Spread of the Disease"—Dr. G. McF. Mood, Charleston, S. C.
- 22. "The Importance of Differential Diagnosis of Abdominal and Lumbar Pains in Women"—Dr. C. W. Barron, Columbia, S. C.
- 23. "Removal of Open Safety Pin, Point Up, From the Oesophagus"—Dr. J. F. Townsend, Charleston, S. C.
- 24. "Inflammatory Rheumatism (?) Its Nature, Causes and Sequelae. The Modern Treatment"—Dr. S. C. Baker, Sumter, S. C.
- 25. "Some Features of Genito-Urinary Surgery"—Dr. Walter Cheyne, Sumter, S. C.
- 26. "Gastrectosis, Its Causes, Diagnosis and Treatment—Report of a Case"—Dr. C. J. Lemmon, Sumter, S. C.
- 27. "Specific Skin Reactions, Their Value and Significance"—Dr. H. M. Smith, Columbia, S. C.
- 28. "Tubercular Meningitis"—Dr. R. M. Pollitzer, Charleston, S. C.
- 29. "Observations on Aortic Aneurysm"—
 Dr. W. Atmar Smith, Charleston,
 S. C.
- 30. "The Diseased Tonsil a Factor in the Production of Systemic Diseases"—Dr. L. O. Mauldin, Greenville, S. C.

- 31. "The Clinical Signficance of Albuminuria"—Dr. J. J. Watson, Columbia, S. C.
- 32. "Comments on Seventy-five Cases of Twilight Sleep in Labor"—Dr. W. J. Burdell, Lugoff, S. C.
- 33. Part 1—Simplified Ano-rectal Surgery;
 Part II—Ano-rectal Constipation
 (Stasis)—Dr. S. G. Gant, New York,
 N. Y.
- 34. "The Head Cold, the Parts Involved, and Remarks Concerning Some of the Results"—Dr. C. W. Kollock, Charleston, S. C.
- 35. "The Tonsils: What Shall We Do With Them?"—Dr. A. M. Brailsford, Mullins, S. C.
- 36. "Interpretation of Some Laboratory Findings"—Dr. F. A. Coward, Columbia, S. C.
- 37. "Kidney Infection With Special Reference to Acute Haematoginus Infection Complicating Pregnancy"—Dr. M. H. Wyman, Columbia, S. C.
- 38. "The Control of Hemorrhage in Tonsil Enucleation"—Dr. J. W. Jervey, Greenville, S. C.
- 39. "Spasm of Cardio With Dilated Oesophagus"—Dr. J. W. Parker, Greenville, S. C.
- 40. "X-Ray Exhibit and Demonstration"— Dr. Geo. Hennies, Chester, S. C.
- 41. "The Principles of Vaccine Therapy"— Dr. T. M. DuBose, Columbia, S. C.
- 32. "Vaccine Therapy From the Clinical Standpoint"—Dr. Ernest Cooper, Columbia, S. C.

Symposium on Anesthesia.

- Twenty-five Years Experience in Administration of Chloroform Without a Death—Dr. Archie China, Sumter, S. C.
- 2. Ether Anesthesia—Dr. W. A. Boyd, Columbia, S. C.
- 3. Nitrous Oxide Anesthesia—Dr. A. E. Baker, Charleston, S. C.
- 4. Spinal Anesthesia—Dr. Geo. T. Tyler, Greenville, S. C.
- 5. Shock Avoidance and Conservation During Anesthesia—Dr. LeGrand Guerry, Columbia, S. C.

PUBLIC HEALTH SUNDAY AT GREENWOOD.

For the first time in our history Public Health Sunday will be ob-

served on the Sunday before our annual meeting, under the auspices of the Committee on Health and Public Instruction. There will be a mass meeting of the citizens in the afternoon at the First Baptist Church.

UNITED STATES NAVAL MEDICAL BULLETIN.

We are in receipt of the new quarterly Bulletin of the U. S. Naval Service, and we wish to congratulate the editors on the high-water mark set by this first number. The Bulletin can not fail to prove of great value to not only the Medical Department of the Navy, but as a source of authoritative information to the medical profession generally.

NATION-WIDE CANCER CAMPAIGN.

The Pennsylvania Medical Association is appealing to all the States to make an effort to have every County Society inaugurate a cancer program for the June meetings. Likewise an effort will be made to secure concerted action on the part of all State Journals to issue Cancer numbers in July.

The matter will be brought to the attention of the House of Delegates. The proposition is meeting with marked favor in the majority of the States.

THE CAMDEN HOSPITAL.

The first annual report of the Camden Hospital has been sent forth and it makes a creditable showing for such a short period of existence. It will be remembered that this splendid charity was the gift largely of two men, Mr. Bernard M. Baruch, of New York, and Capt. John Burdell, of Kershaw County. The Hos-

pital is under the control of the Kershaw County Medical Society. The institution is for charity only in the county, but private patients are received from anywhere.

UNIVERSITY OF MARYLAND ALUMNI.

Prof. T. A. Ashby, of the University of Maryland, will attend the meeting of the State Association at Greenwood for the purpose of organizing the graduates residing in South Carolina into an alumni association. Many colleges, every year, in other States take advantage of the State Medical Association meetings to bring together their alumni. Graduates of our own State Medical College should become more active along this line.

A GOOD CLINICAL HISTORY THE BEST GUIDE TO A DIAGNOSIS.

Mr. A. came into Doctor B.'s office for treatment. He wanted medicine for indigestion. His stomach was not right. Doctor B. was not so situated that he could give Mr. A. a thorough quizzing. Hence he gave him a prescription for nux and pepsin instead. Later Mr. A. consulted Doctor C. because Doctor B.'s medicine did not improve his condition—and so on down the list.

Finally, a man not doing so much work that meant so little to some of the patients saw Mr. A. and ascertained this simple story. 1. A ten year history; 2. Seasonal attacks of stomach disturbance, coming on in fall and spring and lasting about four to six weeks; 3. Much sour stomach; 4. Pain two to three hours after meals; 5. Relieved by food; 6. Night pain, benefitted by soda water; 7. Vomited occasionally and maybe yesterday's meal not thoroughly digested; vomitus sour, put teeth on

edge. It took but two minutes, but the diagnosis of Duodenal Ulcer was made better and more certainly than any one can establish it with test meals and X-Rays. A competent surgeon did a gastro-enterostomy and the patient was cured for all time.

Again, Mrs. S. called Doctor D. over telephone and requested him to send some medicine for piles. The salve was ordered from the drug store and used. A later call came, saving she needed another kind of medicine for the piles were bleeding very slightly. Ordered. Six months later Mrs. S. consulted another physician who was a bit more careful. He made a viginal examination and chanced to find uterine fibroids, and Mrs. S. incidentally remarked that she had been feeling the pressure there a long time and she thought it was just her piles. A hysterectomy was done.

NEW AND NON-OFFICIAL REMEDIES.

This is one of the most important books ever published in American Medical Literature. It represents ten years' investigation of remedies offered to the profession or the public by the Council on Pharmacy and Chemistry of the American Medical Association. From a modest pamphlet a few years ago it is now a book of considerable proportions, containing 486 pages. It contains descriptions of most of the really meritorious proprietary and non-official remedies now on the market in this country, and it is the only real authority on the subject. Therefore, every doctor should have a copy. The cost is within the reach of all, only 50 cents for the paper-bound copies. We urge our readers to purchase the book at once.

WHY PHYSICIANS ERR IN DIAGNOSIS

"Since the announcement by Cabot that post-mortem findings reveal a high percentage of incorrect clinical diagnoses, the question as to the reason is important. In many institutions special attention has been devoted to the problem, and in the city of New York it was made the subject of a municipal report. Recently, in London, a well-known graduate school invited thirty-four specialists to speak on common mistakes encountered in their particular fields. In a review of these lectures," says The Journal of the American Medical Association, "Abrahams has presented an outline and analysis of the causes of error. It was, of course, surprising to find that the field of medicine could be divided into thirtyfour specialties. A few decades ago such a series of lectures could include but five or six topics. Today the chest is divided into the lungs and the heart, and, says Abrahams, 'even the cardiac specialists exhibited a marked tendency to dichotomy, for a struggle between displaying his experiences as a clinical diagnostician and his skill as a mechanical cardiologist was manifest.'

"Errors in diagnosis are due to certain definite causes. The large percentage of such errors are avoidable, but only by ascertaining wherein the defect lies can improvement be possible.

"Abrahams classifies errors on the part of physicians into two groups, social and clinical.

"Social errors, under which are listed (1) bad deportment and (2) lack of tact, affect chiefly patients suffering from such functional disorders, as hysteria, psychasthenia and neurasthenia. Social errors prevent the physician from gaining

confidence of such patients and inhibit the establishment of the thorough sympathetic understanding which should exist between the functional neurotic and his physician.

"Clinical errors are due to (1) ignorance; (2) faulty judgment; (3) obsession; (4) failure to think anatomically; (5) failure to think at all; (6) reluctance to accept responsibility; (7) inherent difficulties in the case and (8) incomplete examination. Naturally these divisions may overlap in their application to any special case.

"As examples of gross ignorance, the author mentions overlooking a large amount of cerumen as a cause of deafness, or diagnosing a swelling in the abdomen, four days after labor, as 'acute metritis' when in reality it is a bladder full of urine. Ignorance itself may, indeed, be classified as the ignorance of fundamental facts, ignorance of the existence of rare conditions and the almost inexcusable ignorance of the recent progress in medical science.

"An error of judgment is the diagnosis of mental defect in a child who is merely deaf. The physician who diagnoses pregnancy when it does not exist, or vice versa, commits an error of judgment, which he always regrets far beyond what at first thought seems to be the gravity of his error.

"Much more rare is the error due to obsession; it is well-known that the syphilologist is inclined to see in every lesion the results of the widely spread Treponema pallidum. To think anatomically means to consider in the analysis of any local condition all the possible anatomic and physiologic relationships of that part.

"Mistakes from inherent difficulties in the case are the type which can be condoned. Circumstances alone may supply insuperable difficulties. There are human limitations. A shadow in a roentgenogram is but a shadow, and any one might mistake a gallstone for a stone in the right kidney, or a calcified gland for either.

"Sad to confess, mistakes from incomplete examination form the largest class. Nearly all avoidable blunders results from this cause. Insufficient examinations are due usually to lack of time, sometimes to laziness. There are, of course, patients who object to complete and thorough examination. This can never be a satisfactory excuse; a case should be relinquished when it can not be sufficiently studied. 'It is better,' warns Abrahams, 'to lose a patient than to lose a reputation.'

"Bissell and Le Count have analyzed the relations of the clinical diagnosis to the post-mortem findings in two hundred deaths in coma. In brief, their study has shown that there is a gradual increase in the number of correct diagnoses with the length of time under observation.

"There is, then, one class of mistakes which can be condoned. This class is bounded by human limita-The others are avoidable. Mistakes due to gross ignorance and faulty judgment may be overcome and are being overcome by increased preliminary requirements and improvement in medical education and by an endeavor on the part of most physicians to keep abreast with the advance in medical knowledge. Mistakes due to lack of time and thorough study will be overcome when physicians resolve to study each case thoroughly with the use of the many available accessories to medical practice."

NOSE BLEED.

This is a condition that all of us sooner or later are called to treat. It occurs at all ages and may be inconsequential or momentous in its effects. We have seen it occur in infants of a few hours and in those who have traveled their alloted span of years. While its causation is of prime importance, our first duty is to consider treatment. There are not many circumstances of our daily routine where cool, quiet judgment is more effective in procuring good results, and failure to apply a wellbalanced plan of procedure is often with disastrous fraught consequences. When in the presence of such a condition for the first time, we must determine at once whether emergency measures to control the bleeding are necessary, or whether we may proceed to determine its etiology and treat the condition accordingly.

In very young children always suspect hemophilia; do not be satisfied with the nurses' statement that the baby has scratched itself with its finger nail, but inspect the bleeding area for the wound. When none is found, and the bleeding proceeds from the skin surface, we should be very cautious in our prognosis, for this may stop of its own accord, but in a few hours a call may come in that the umbilical dressings are blood stained, such an experiment has been the source of mortification to physicians more than once.

Injuries to the head may and do cause fracture through the base of the skull and bleeding of this nature, but the trauma may be of a less serious nature and involve only the septum. This structure is the seat of probably 90 per cent of all cases of nose bleed, and the anterior septal

artery, situated near the external nasal orifices, is usually the source of bleeding. In the absence of an injury the causes may be divided into local and general. Among the former we may find papilloma polyp of the septum or accessory cavities. Very intractable bleeding sometimes occur from these benign growths in the antrum.

Ulcerations from foreign bodies or local ulcers from other causes, such as an angle of a deflected septum on which drying and scabbing has occurred, followed by mechanical removal of the scab, are at times the source of brisk hemorrhages.

The second classification contributes a greater variety of etiological factors. Many of the infectious diseases contribute generously to this condition, the bleeding may be septic in nature or the result of a high Diphtheria, meablood pressure. sles, whooping cough, scarlet fever, influenza, typhoid and smallpox are the most frequent offenders in this class. Purpura hemorrhagica, syphilis, tuberculosis, leprosy, malaria, anaemia, scurvy, heart disease, obstructive diseases of the liver and arterio sclerosis, accompanied by high blood pressure, also furnish their quota.

TREATMENT.

Repeated vomiting of blood in children without apparent cause should always lead us to examine the nasal cavities, for cases are on record where death supervened from suspected gastric bleeding, when the real source was an ulcer on the septum, the blood being swallowed and regurgitated.

First, decide whether to arrest the bleeding or to get the details of the case. If there is no urgency, be assuring, inspire confidence, and thereby procure co-operation of the patient. If the blood pressure is high the color is good, temporal veins full, headache or stupor, then probably nature has the situation in charge. The finger or blood pressure instrument should be kept on the pulse, and no interference until the blocd approaches the normal limits. If the case is one of high pressure uncomplicated with vanced arterio sclerosis, nothing but self-restraint is usually needed. In the presence of advanced sclerosis, with ruptured varicose vessels of the septum, one's ingenuity is often taxed to the limit.

The patient should be seated, the head flexed, causing the blood to escape through the anterior nares, this does away immediately with the gagging, the bleeding nostril should be located and simple pressure of the alae between the thumb and index fingers for sufficient time for blood Small doses of morphine clotting. are usually highly serviceable. Before employing any other means, we believe that the most important procedure is to locate the bleeding area. If the anterior septal artery is the offender, strong daylight, a head mirror and lamp, or one of the various pocket illuminators is sufficient equipment, if a nasal speculum is not at hand, improvise one by bending a hair pin. This procedure will often prevent packing of the pharynx. If death is imminent, one is justified in using the most expeditious means to control the bleeding. When mechanical means are employed they cause much discomfort and induce sepsis, unless packing is This condition in removed early. adults is often natures' safety valve. We may profit by her suggestion.

In the aged and feeble who are suffering from heart disease or renal lesions with their accompanying vascular changes, it requires nice judgment to decide just how much to permit such a patient to bleed. It is almost impossible to estimate the quantity of blood such patients can lose without lowering their resistance to the point where pneumonia or septic phenomena become sequences. It is important in these cases to increase the clotting power of the blood. Various remedies have been used and had their day. It is still contended by some that large doses of calcium lactate, repeated at short intervals, is effective. Quite recently Pituitrin has come to the front as an agent, which distinctly shortens the clotting time of the blood.

ORIGINAL ARTICLES

SYPHILITIC MULTIPLE SCLEROSIS— DIAGNOSED CLINICALLY IN SPITE OF NEGATIVE LABORATORY TESTS.

*By Tom A. Williams, M. D., C. M., Edinburgh, Washington, D. C.

A WOMAN, aged 39, was sent to me from New York State because of what had been diagnosed by several neurologists as multiple sclerosis. Her physician wrote asking if I could suggest some treatment or perhaps modify the diagnosis.

The patient declared that she had been intensely nervous since the birth of her boy, eight years ago: since two and a half years this had consisted of palpitation and a feeling of dread, great unsteadiness of the hands, voice and gait. In addition there was marked incontinence of urine and extreme obstipation with occasional incontinence. She was dizzy when tired, and the eyes were blurred.

Examination showed great exaggeration of the tendon reflexes but no corresponding diminution of the

*President Washington Society Nervous and Mental Diseases; Neurologist to Epiphany Dispensary, Corresponding Member Paris Neurologic Society, etc. cutaneous reflexes; and the great toes did not extend upon stroking the sole of the foot nor by other stimuli used to provoke that reflex. But that there was some interference with the pyramidal system was shown by absence of reflex flexion of the toes, all of them remaining immobile to the stimuli of reflectivity.

The absence of the sign of Babinski in a patient whose illness was of such gravity and duration made me suspect that insular sclerosis might not be present after all; and on proceeding to the examination of the eyes, my doubts received further support; for no nystagmus occurred even during rapid intentional movements; and the optic papilla showed no atrophy, although slightly pale.

The absence of three signs of such importance compelled me to contradict the previous diagnosis, in spite of the presence of intention tremor, scanning speech, impaired diadocokinesis, a slight *moria*, such as often occurs in insular sclerosis, and a diminution of vibration sense in the legs.

But it is pretty well known to neurologists that the symptoms of insular sclerosis may be simulated, even to a greater degree than was shown by this patient, when there is a diffuse chronic inflammation of the nervous system produced by the treponema pallidum. This, I suspected to be the condition of this patient.

Accordingly lumbar puncture was done on February 13th, when 30 c. c. of fluid very rapidly came, and Doctor Nichols reported that there were 7 lymphocytes per c. m. This slight lymphocytosis still left us in doubt; for an increase in cells has been reported in cases of insular sclerosis.

However, I put the case to the patient, who decided to permit the experiment. So I injected a full dose of salvarsan into a vein on February 22d. This rendered her almost helpless for about two days. Then she began to handle herself much better; and on the 28th she also felt much better; and the motility greatly improved. The reflexes and sensibility were as before; but the intention tremor had greatly diminished.

So on March 7th, the spinal fluid was again examined and a luetin test was begun by Dr. C. A. Simpson. The cells had diminished to 5 c. m. This puncture caused great pain, headache and nausea. After this cleared up, salvarsan was again given on March 15th. Within twentyfours hours, her legs gave way twice; but a great improvement again followed in walk and speech; the intention tremor disappeared, and her sleep became restful. Wassermann reaction remained negative as before, but a papule rapidly formed where luetin had been injected, and when I saw her five days after the salvarsan, a broken pustule was present which Doctor Simpson pronounced a luetin reaction.

The following letter was sent to her doctor, who expressed his pleasure thereat in stating that the case had baffled several neurologists:

"My Dear Doctor:

Mrs. B. is returning after receiving salvarsan twice and appearing much improved. I think we may say the diagnosis is positive now; for the reaction to luetin which Dr. C. A. Simpson declares to be pathognomonic, declared itself after the second injection of salvarsan, although it had been quiescent more than a week before that. This in connection with puerperal, the history, the lymphocytosis of the spinal fluid and the absence of some of the most characteristic signs which might be expected in true insular sclerosis, decides me. I recommend that you continue treatment by salvarsan and mercury for some months; although I do not believe that full restoration of function will occur now as there must be considerable destruction of nervous tissue. I have not named the diagnosis to the patient. Please accept my thanks for sending me a problem of such interest and for the pleasure of having been able to afford some benefit.

I am,

Yours faithfully,"

COMMENTARY.

The low lymphocyte count in the presence of such severe symptoms and the relative poverty of radicular signs, indicate that the pathological process causing the symptoms is within the central nervous system in the main, and not merely an involvement of the roots by an extension from the meninges into their coverings of syphilitic lepto-meningitis, as is the case in tabes dorsalis. There are, in all probability, foci of ill-nourished, if not necrotic tissue, scattered throughout the central ner-

vous system, perhaps as a result of endarterial proliferation which may have led in some cases to obliteration. In proportion as this is incomplete and the tissue elements have not perished, there will be restoration of function, as tissue activity is resumed upon the removal of exudate from arterial wall or connective tissue, by the destruction of its cause, the treponema pallidum by salvarsan or mercury.

In the presence of lesions of this character the signs may lack all systematization, as in this case.

In insular sclerosis, it is rare that the midbrain or the pyramidal tract escapes when the process is at all extensive. The absence of nystagmus and of extensor response of the toes immediately made me suspicious of this diagnosis. The experimental therapeutics confirmed my doubts; but unless the luetin reaction be regarded as pathognomonic, only an examination post mortem can give absolute proof, and in some cases even this has failed to distinguish between disseminated sclerosis of the usual type, and that sometimes believed to occur as the result of syphilis. It must not be forgotten that post mortem appearances are after all merely the results of the reaction of the body to insult, and that these results both resemble one another and vary so much that few of them are pathognomonic for any particular invasion. For instance. even plasma cells, so characteristic in paresis, merely denote chronicity, and may occur under many conditions quite irrespective of syphilis.

Again, during life the reactions of the body to the particular noxa are by no means certain; otherwise we should not find Wassermann reaction absent in nearly 40 per cent of tabetics, and we should not find it present as a reaction to the organism of leprosy.

In conclusion, it can not be too often insisted upon that the absence of the reactions which are detected by the usual laboratory tests for syphilis, is by no means conclusive of the absence of that disease; the failure to find them merely indicates that, at that particular moment, the patient is not reacting strongly enough in that particular way. results of previous reactions as manifested by present clinical signs, furnishes a basis for a diagnosis in every way as potent, and no more lacking in that objectivity which it is the fashion to claim pre-eminently for certain methods conducted in the clinical laboratory. A moment's reflection shows the fallaciousness of this claim; indeed, a non-reacting pupil, an absent knee jerk, a positive great toe sign, are no less objective than blood-cell count diazo reaction, or Aberhalden test: further. more, these latter are much richer in liability to false interpretations as well as errors in observation than are clinical signs in the hands of an experienced neurologist.

THE RELATION OF PATIENT TO DOCTOR AND DOCTOR TO PATIENT.

*By R. M. Reid, M. D., Gastonia, N. C.

The Relation of Patient to Doctor and Doctor to Patient, and I will enlarge on this to include the relation of each to the other, that did frequently exist, does often exist and should always exist. Perhaps you do not know why this particular subject was selected for me, but I fear I do: First, because it is

^{*}Read before the York County Medical Society, 1914.

the broadest, most unscientific and most objectionable subject that demands consideration at our hands today. Second, because I have the unenviable reputation of having a somewhat sarcastic and combative dispotion and thereby better able to parry off the unpleasant relations that sometimes arise between patients and physicians; consequently I'm supposed to "lay to" this unpopular subject, with utter disregard to myself of the consequences and to handle it with ungloved hands, neither asking nor giving quarter.

With this pretended apology and reasons for having been selected for this subject I shall proceed to give it to you as I have had to receive it. There was a time, not many decades ago, when the physician was considered the biggest man in his community, more especially in rural districts. He was considered, in some mysterious way, to be both omniscient and omnipotent, and to know the secret thoughts in his patient's mind, and the functionating power of every organ of the human anatomy in health and disease. He was supposed to have X-ray eyes that could pierce the hidden recesses of the body, and see the daily changes, that are erroneously supposed to renew the entire human body every seven years, and thereby know whether the changes indicated beginning Egomania, Kleptomania or Pyromania. He was supposed to be able, by one wise glance, to make an infallible diagnosis of his patient's disease, the stage of the disease, and to forecast the exact date of death or recovery. Of course these fanciful and fanatical ideas of the physician's mysterious power and wierd knowledge by the laymen, were hallucinations, begotten by ignorance and fostered by superstition

and mythology. But conditions have changed, "The Worm has turned." The proverbial under dog in the fight has reversed his disgraceful position to the entire satisfaction of his vanity, as we will attempt to prove.

The lay doctor of today, whether male or female, old or young (and their name is legion), armed with Doctor Gunn's medical adviser and Doctor Pierce's household hints, and possessing uncompromising an knowledge of Bold-Hives, the dangers of teething, the blood thinning effects of salts, the death producing effects of vaccination, the unfallible effects of tar plasters in tuberculosis and whooping cough, the specific effects of Tutt's pills in billiousness, and having read in Doctor Harter's medical almanac the germ theory of disease, makes such an unyielding antagonist to combat, that the physician of today is forced to retreat behind his impregnable fortifications of scientific knowledge and persistent research. Too often today, the laymen, ignoring the axiom "that a little learning is a dangerous thing," takes uncontrollable pride in making known his absolute diagnosis to the physician as soon as he arrives; feeling elated over his marvelous diagnostic ability and fearing his importance will not be readily recognized or accepted—he parades his ostentatious familiarity, by most often addressing the physician as "Doc." He will hold up the physician as soon as he enters the house, until he has delivered himself of one of the following opinions and conclusions: He will say, "Doc," my child took sick yesterday, with the same symptoms Mr. Smith's child had last week, and Doctor Jones said it had elephantiasis, and could not take calomel or any strong medicine,

but it got well and I'm sure my child has the same thing. Or will say, "Doc," my child coughed all day yesterday, and I'm sure he had pneumonia last night but I made my wife get up (he always does) and give it some hot tea, and greased the bottom of his feet with mutton tallow and put an onion poultice on his stomach, and he is about well this morning, but I thought he might have bad blood, so I sent for you to see him. Or will say, "Doc," my baby is hot and has high fever and I know it is either typhoid or malarial fever, but I was sure if you could get here in time you could break it up or keep it from running into something else. Or, will say, "My wife has a pain in her back and I know it is kidney disease for my brother's wife had the same pain in her back a year ago, after she had done a hard day's washing—chopped and carried in the wood, and cooked supper, and Doctor B. said she had kidney disease, so I put a rosin plaster on my wife's back and she is a great deal better." Or will say, "Doc," my boy took bad sick during the night, and I'm sure it must be its teeth, for my neighbor's child took bad the same way, and its old aunt said it was its teeth, and took her brass thimble and scraped all the flesh off its gums and gave it some senna tea and it got well. This baby, the physician afterward learned, had eaten for supper a gorge of sour vegetables left over from dinner, and drank a pint of milk that had stood all day on the back porch, exposed to the dust, heat and an army of flies, and used by the flies as a public swimming pool; but had the physician questioned this father or lay doctor, about the flies and milk, he would have volunteered this valuable information in a confidential way, that flies never hurt any baby, for his mother had raised thirteen children and 8,000 flies in the same kitchen and fed them all out of the same spoons, dishes and milk cans, and they are all living today.

I am free to admit I am wholly unable to grasp the gigantic mental process by which these diagnoses are reasoned out, nevertheless they remind me of one of Polk Miller's jokes on an old colored man on his father's As the story goes, the old farm. colored man had worked until noon in the hot sun, came home to dinner and after having eaten all his gastric anatomy would surround, he repaired to the porch, seated himself in an easy chair, leaned back against the house and was soon dead to the world, by that noisy sleep so characteristic of the negro, his lower jaw hanging down as if unhinged, exposing an open mouth that reminded one of an open door to an underground tunnel. At this psychological moment, young Miller lost a five-grain quinine capsule in the old man's mouth, as the capsule began to dissolve the old negro's sleep became more and more restless, until finally he jumped from his chair with a yell, crying, "Massa, Massa, for God's sake send for a doctor, my gall's done busted and running out of my mouth." Now, to the laymen, this may seem ridiculous and devoid of reason, but when you follow his reasoning that gall is bitter and that his mouth suddenly become intensely bitter without his knowledge or consent; therefore, his gall had busted and was in his mouth. And yet, the physician frequently hears a layman make a diagnosis on one symptom or even hear-say evidence that is not as logical or reasonable as the old negro's.

Again my observation leads me to the conclusion that the laymen's idea of the curative power of medicine is as illogical and unreasonable as his diagnosis. He has seen a dose of calomel or castor oil relieve a temporary derangement of his child's stomach in one night, therefore, he can not reason why one dose of medicine does not relieve nis other child. although it has typhoid fever or pneumonia, consequently he begins to suspect, or at least question the knowledge or skill of his physician. Again, the sick member of his family does not show, to his mind, the evidence of recovery as rapidly as he thinks it should, he consults with his over-kind friends and all the wiseacres in the community about his child—the treatment, and the physician: added to this he hears continually from his curious neighbors and sympathetic friends, who congregate in his child's sick room, suggestive criticisms and unfair comparison of the attending physician, with the parting advice that he try some other physician. You laymen perhaps have sometime thought of the easy time, freedom from care, and pleasant joy rides your physician has in his daily journeys, some of you perhaps, have sometimes wondered at the exorbitant charges your physician makes for a pleasure trip of one mile and incidentally looking at your tongue and giving you a dose of medicine. Some, perhaps, have often thought how unnecessary for the physician to make a careful and tedious examination of his patient, or how it is possible for him to fail to know the disease, believing as you do, that if you had half his medical education, with your powerful intellect, you could name the disease at a glance without putting yourself to the trouble and the patient to the discomfit of an examination. A few of you, and I trust a very few, perhaps, have wondered whether your physician does not give his patient medicine to keep him sick and thereby get a larger fee, whether the physician does not make the case appear more serious than it really is, for the same reason. Whether the physician cares about his patient's recovery or death, so he gets his fees. And whether all physicians would not perform any illegal act if the pay was good—all these propositions are too absurd to require our answer, suffice it to say that such ideas are as unbecoming a full-grown thinking man as a silk hat is unbecoming a razor-back hog.

And now, having given you some of the relations that often existed in the past of patient to physician, and having given you some of the relations that too often exist today, J shall attempt to give you the relations that a patient should bear to his physician. First: I would say it should be one of entire confidence in your physician's integrity, his scientific attainments and his professional skill. If not, the fault is yours, get one in which you can. You should regard him as an expert, who has spent four years of his time. money and intellect in training in a medical school, who has satisfied his State that he is competent to practice medicine before he is permitted to give a legal medical opinion or administer a legal dose of medicine. and, who has had years of observation and experience along his particular line. If the above be true the physician who is not more able to determine the pathological condition, more able to recognize and avert the dangerous symptoms and more able to administer scientific treatment to his patient, than the patient himself or any layman, does not deserve the name of physician.

In other words, the Scripture says, "If the righteous are scarcely saved where shall the ungodly and sinner appear." Admitting for the sake of argument that you are a Philadelphia lawyer, a Doctor of Divinity, or a Doctor of Pharmacy, and that you have twice the literary education, and more than twice the mental caliber, of any physician, even then would you not prefer to have any physician trained in anatomy, physiology and therapeutics, to administer to your sick child, than either of the other two mentioned above, trained only along literary lines, and who would not know an appendix if they met it in the road, and could not tell the difference between vertigo in a child and blind staggers in a horse.

And now, in conclusion, we will consider the latter part of my sub-The physician's relation to his patient: There was a time not long since when a physician, for reasons mentioned above, could make any kind of unreliable, unreasonable and unscientific statement to his patient and get off with it. He could tell him as soon as he entered his home what his diagnosis of his case was, and if perchance, his hasty diagnosis was disproven next day, as it most often was, he had only to tell him the disease had run into some more apparent disease. He could tell him that if he had been only a few minutes later he would have had typhoid fever or pneumonia. He could tell him he used a new medicine in his case that no other physician outside of New York knew of and that it was the only thing that could have saved him. He could tell him that he knew two weeks ago that he would have tuberculosis if he did not take care of himself, while at that time he had advanced tubercu-

losis that had existed for one or more years, unrecognized by him. He could tell him that operations for appendicitis were only a fad and that he had cured all his cases without an operation. He could tell him that diphtheria, scarlet fever and other contagious diseases were not as catching as most doctors say they are, and that quarantine and keeping children out of school was done to frighten the people and show authority. He could tell him that smallpox was only elephant itch, and that no one ever died from elephant But things have changed. The average layman of today who is not blinded by egotistic ignorance and inherited prejudice, can converse intelligently about the common laws of hygiene, infection and sanitation. Thanks to the present day teaching of the press, the pulpit and the conscientious physicians. He knows that germs are seeds that produce diseases, and that like begets like. He knows that if he sows the germs of typhoid fever, tuberculosis or diphtheria, he will reap a harvest of typhoid fever, tuberculosis and diphtheria, and that the germs of these diseases if planted in the human body can not run into or produce measles, mumps, or any other disease, except the one sown. He knows the living human body is the most complex and complicated machine, and that no medical machinist, however expert, can discover the sick part of that machine at a glance, but must examine it carefully and scientifically, and he knows too well that the careless, commercial and conceited cuss who tampers with that machine only adds new dangers to its diseased condition. The layman knows another painful fact, painful to both physician and patient, that commercialism has fastened its paralyzing claws on some of us in the profession. He knows that the press and periodicals of our day have selected the commercial physician as the subject for their jokes and witticisms. He has perhaps read the following joke, aimed at that member of our profession. It reads as follows: A country physician sent his patient to a city hospital to be operated on for some abdominal condition, supposed to be appendicitis. The morning after the operation the physician sent the following telegram to the operator: "What did you cut out of my patient?" He received in reply this laconic message: "A normal appendix and his entire bank account." After a few days the country physician received this message: "Your patient died at 6:00 a. m." To this day the country physician is wondering whether his patient died from the removal of his appendix or his bank account.

And, now, finally brethren, I hope to give you by illustration the relation that the physician should and very, very, often does bear to his patient. Go with the physician to the bedside of the only son and only support of a widowed mother, and note the startled and anxious expression on his face as he sees at a glance his patient is desperately ill, with some, as yet unknown disease. Note the silent and serious manner in which he kneels beside his patient's bed and begins his careful, tender and scientific examination of his unconscious patient, realizing with visible depression his tremendous responsibility to his delirious patient, and the sobbing mother, and knowing too well that time, and accurate diagnosis means life or death to his patient, and hope or despair to the

mother. Minutes pass into hours, he is still unable to decide-with trembling hands he administers a stimulant, then walks silently and sadly from the house. The horrible vision of danger and distress in that home will not down at his bidding. Follow him to his home, the awful vision is still before his eyes, the thought of food is nauseating. can not eat. Watch him, the physician of years of experience and knowledge, as he takes down volume after volume, from the shelf, and burns anew the student's midnight lamp. See him as he falls across his untouched bed, exhausted mentally and physically, painfully courting that momentary oblivion that only sleep can give—he cannot sleep. The faintest sounds outside cause him to start and shudder with painful expectation, a knock at the door is heard—he leaps to the floor as if touched by an electric current, while a low and solemn voice from without calls, "Doctor, the widow's son is worse, please come at once."

These anxious days and sleepless nights bring no relief or comfort to the patient, mother or physician, until the Angel of Death hovers over that home. Now, ask this widowed mother what relation this physician manifested toward his patient, her son.

REPORT OF DIRECTOR OF LABORATORY.

F. A. Coward, M. D.

To the Chairman and Members of Executive Committee South Carolina State Board of Health.

Gentlemen:

I submit herewith my report as Director of your laboratory for the period beginning December 1st, 1913, and ending November 30th, 1914.

PROGRESS OF THE WORK.

The laboratory has made unprecedented gains in all departments of work during the past year. With this increase has come an imperative demand for more liberal appropriation and for an additional trained bacteriologist. Unless these are granted, the scope of our work must be narrowed—if granted, we can extend our activities along several lines where improvement is needed.

Some needed improvements are: the furnishing of proper mailing outfits for specimens; demonstrations to physicians of the latest methods of taking material for examinations; a systematic hunt for typhoid carriers; the early diagnosis of typhoid by blood culture; the testing of disinfectants; and minor improvements in our routine diagnostic work.

Hitherto it has been our custom to begin our year with December first, in order to have a full year's work to report to the annual meeting of your Board—the magnitude of our work now and the increased amount of necessary bookkeeping make it advisable to rearrange our records and begin with the fiscal year; a separate report will therefore be appended for the month of December, 1914, after which the records for 1915 will begin with January 1st, of that year. At that time, also, a trip. licate report on all positive diagnosis tests will be made out, instead of a duplicate as at present; the third copy being forwarded each day to the State Health Officer.

Since May the laboratory has been allowed a stenographer for one-half of each day. Mrs. Isabel Remley, in that position, has done splendid work for us, the vast improvement in the recording, reporting and filing of our results, expenditures, etc., is entirely due to her diligence. The inevitable increase in our work next year will require the entire time of a stenographer, and I therefore request that provision for such help be included in your budget.

PERSONAL WORK.

The Director has occupied himself chiefly with the preparation of antirabies and anti-typhoid vaccines. Testing of disinfectants was begun, and a number of samples tested, but the flood of requests for typho-bacterin made continuance of these tests impossible. Publication of the results is not considered advisable on account of the relatively few samples tested as compared with the large number of such preparations on sale in our State. This work can be continued if an additional full-time bacteriologist be employed.

During the year the Director attended meetings of the Southeastern Sanitary Congress, the South Carolina Medical Association, the Association of Municipal Light & Water Works Managers, the Conference of State, Territorial and Provincial Health Officers, the Southern Medical Association, and the American Public Health Association. He also visited laboratories at Philadelphia, Washington and New York for the purposes of observation and comparison.

Mr. Cain has continued the careful and faithful service which has made him indispensable in the routine diagnostic work. He has been burdened not only with an actual increase in the number of all specimens, but the institution of tests for paratyphoid fever has practically doubled his work with Widal tests.

He worked the entire year without extended vacation.

The entire laboratory force is again indebted to Mr. C. W. Miller for voluntary and unremunerated assistance in many ways, acknowledgement of which is hereby made.

The courtesies of the laboratory were extended during the spring to Dr. A. I. Vipond, of Montreal. We are indebted for extension of valuable courtesies during the year to Dr. H. F. Harris, State Health Officer, Georgia; Major Russell of the Army Medical School; Doctor Anderson, Director of Hygienic Laboratoray; Doctor Hichens, of H. K. Mulford Co.; and Dr. C. E. Smith, Health Officer, of Greenville, S. C. Also to Mr. E. J. Watson, Commissioner of Agriculture, for flags loaned for the Jacksonville exhibit.

TYPHOID PROPHYLACTIC.

As was expected, the demand for our typho-bacterin has been very heavy during the past year, but except during a few weeks in June and July, we have been able to supply the demand with reasonable promptness; and it has not been at any time necessary to purchase bacterin from outside sources as in previous years. The occasional inability to fill orders promptly has been entirely due to our inadequate numbers in the laboratory. The packing, addressing and mailing of such a number of packages constitutes quite a task in itself so that we were also hampered by the lack of ordinary help.

During the month of August, Mr. Cathcart was employed as assistant in sealing and handling the finished bacterin. Mr. C. W. Miller also gave his invaluable assistance as a patriotic charity to the State.

In spite of drawbacks, we were able to prepare over forty thousand

doses of bacterin, of which 39,135 were mailed to physicians. This amount is nearly double that sent out during the previous year, and is more than has been sent out in all previous years put together. With a view to ascertaining the actual results obtained through the use of our bacterin, an investigation was undertaken at the end of the current year.

Return question cards were sent to every person or institution using the bacterin since we began its free distribution. These numbered eight hundred and thirty-five. Two hundred and fifty-seven of these replied, accounting for seventeen thousand, eight hundred and sixty-nine partial and complete immunizing treatments. Fifty-one of these reported ninetysix cases of typhoid developing after attempted immunization, and four thousand, six hundred and sixty cases of typhoid during the same period among the unvaccinated. elaborate questionaire was then sent each of these fifty-one physicians requesting the full data concerning their cases. Forty physicians accurately filled in and returned the blanks, accounting for seventy-four cases.

Detailed studies of the results are set forth in the accompanying tables. An analysis of them seems to warrant the following conclusions:

- 1. Our typhoid bacterin as prepared and distributed for the past three years is safe, and has produced no serious ill effect, so far as we have been able to determine by exhaustive inquiry.
- 2. There is nothing in our results to indicate danger from the so-called "negative phase," since practically all of our inoculations have been begun during community or institutional epidemics, or in the families

of persons already sick with typhoid fever. There has been no report of reflorescence of latent tuberculosis following inoculations with the bacterin.

Our apparently inferior showing as compared with the brilliant results in the United States Army is readily explainable, although the two are not fairly comparable.

A. In contradistinction to Army practice, we boldly give the bacterin indiscriminately before, during, and after, direct exposure to typhoid infection, because the laity will seldom take it in any other way.

B. In our State and among our people there is no high standard of personal and community sanitation, such as can be enforced in the Army. Previous to the beginning of antityphoid vaccination the Army had a typhoid rate far below that of any part of South Carolina.

C. Our figures include both sexes and all ages—52 per cent of our failures were in persons under twenty years of age, and 48 per cent were under eighteen years.

During practically the same period as that covered by this investigation, a study of the efficiency of smallpox vaccination was pursued

by the States of Massachusetts, Minnesota, Montana, New York, California, Maryland, Michigan, Ohio, Vermont, Wisconsin, and the District of Columbia. Out of 20,835 cases of smallpox reported, 540—or one in 38.5—had been vaccinated within seven years preceding the attack.* For anti-typhoid vaccination our corresponding figures would be: out of 4,734 cases, 30 or one in 157.5 -had been vaccinated. The length of time since vaccination is not considered, however, as no parallel figures bearing on this point are available.

This work is now perhaps the most generally popular of all that the Those physilaboratory is doing. cians who replied to our questionaire were unanimous in their wish for a continuance of this service. Their remarks were often laudatory in the extreme. Many felt that antityphoid vaccination should be compulsory; many stated as a fact that it had diminished or abolished typhoid in their localities. The severest criticism received was from a physician who felt that the State should repay him \$1,500 annually, which he could no longer count on from treating typhoid fever.

TABULATED STATEMENT OF RESULTS FROM USE OF TYPHO-BACTERIN —AUGUST 16, 1911, TO SEPTEMBER 16, 1914.

| Total number of 1 cc ampules distributed | 73,357 |
|--|--------|
| Physicians, institutions and persons applying for bacterin | 835 |
| Number of above replying to questionaire | 257 |
| Number of persons receiving one or more doses of bacterin | 17,869 |
| Number of persons receiving complete immunization treatment | |
| (three doses) | 15,726 |
| Cases of Typhoid Fever treated during the above period by phy- | |
| sicians reporting: | |
| Among the unvaccinated | 4,660 |
| Among those receiving one or more doses of bacterin | 96 |
| Cases occurring ten days or more after complete immunizing | |
| treatment | 30 |

^{*}Public Health Reports (U. S. P. H. S.) Vol. 29, No. 40, p. 2663.

| be obtained | 22 |
|--|-----------------|
| Number of cases developing after one dose | 20 |
| Deaths | í |
| Number of cases developing after two doses | 18 |
| Deaths Number of cases developing after three doses (within ten days | 1 |
| after last dose) | 6 |
| Deaths | 1 |
| | |
| STATISTICAL STUDY OF THIRTY CASES DEVELOPING TYPHOID TEN D | AYS |
| OR MORE AFTER COMPLETE IMMUNIZING TREATMENT. | |
| Total Number | 30 |
| Severity— | |
| Severe | 3 |
| Typical | 6 |
| Mild | 21 |
| Complications— | |
| Hemorrhage (Intestinal) | 6 |
| Epistaxis | . 1 |
| Perforation | 1 |
| Meningeal IrritationPhlebitis | 1 |
| Deaths | 1 |
| Mortality percentage | |
| Duration of fever— | 0.00 |
| Longest case, days | 72 |
| Shortest case, days | 10 |
| Average case, days | 28 |
| Time elapsing between administration of third dose of bacterin and | |
| and the onset of symptoms of typhoid. | |
| Longest, 2 years, 9 months; shortest, days | 13 |
| Less than one month, per cent | 7 |
| One to six months, per cent | 18 |
| Six months to one year, per centOne year to eighteen months, per cent | $\frac{15}{45}$ |
| Eighteen months to two years, per cent | 11 |
| (Fractions excluded in above.) | 11 |
| | |
| AGE OF PATIENTS. | |
| Youngest, years | 5 |
| Oldest, years | 40 |
| Average Age, years | 20 11 |
| Under ten years, per cent Ten years to twenty years, per cent | 41 |
| Twenty years to thirty years, per cent | 26 |
| Thirty years to forty years, per cent | 22 |
| Julia to 1010, John, por contraction of the contrac | |

STUDY OF GENERAL REACTIONS.

| Following 2,479 Inoculations, first, second and third. | |
|--|----|
| Mild or absent, per cent | 85 |
| Severe, per cent | 5 |
| Moderate, per cent | 10 |
| Other ill effects—Infection, Abcess, Anaphylaxis, etc. | 0 |

_ DIAGNOSTIC EXAMINATIONS.

As in previous years, the work in this Department shows a steady increase, both in the number of the specimens received and in the number of physicians calling on us for assistance in diagnosis. That this increase is an actual one is proved by deducting the totals of hookworm examinations and tests for paratyphoid fever from the grand total—the remainder, 4,342, showing an increase of over 10 per cent above the corresponding figure for the previous year.

While the majority of the hookworm examinations were made by Mr. Miller, who is employed by the Rockefeller Commission, and should be credited to the Commission, a larger percentage than before was done by the regular laboratory force.

Agglutination tests for paratyphoid fever were begun in June and have been made regularly since, all specimens sent for Widal test being so tested in addition to the regular test with B. typhosus. Out of the 1,662 specimens submitted we found agglutination for paratyphoid in 94, showing that this type of infection is by no means uncommon in our State. For a few weeks a third test was made on all Widal specimens, using a different strain of tvphoid bacillus, but the results were not such as to suggest the continuance of this extra labor.

The number of specimens of water

sent in is steadily increasing. This work at present is not satisfactory, owing to the generally poor samples of water submitted, and the general lack of information concerning the significance of the results of the bacteriological examination. If funds permit, we will improve this part of the work by furnishing proper sampling outfits, with printed instructions, and sending reports on leaflets which shall also bear self-explanatory legends.

The laboratory is now in position to assist municipal boards of health in the control of quarantine for diphtheria by release cultures. For the present, however, such municipalities must furnish all culture and mailing outfits, and pay expenses of postage and telegrams.

The necessity for properly constructed legal mailing outfits is becoming more pressing daily; an adequate appropriation for this purpose is again urged, as it has been urged for several years past. There is real danger to the public and to the laboratory men in handling many of the specimens as now sent in—and the examinations are often impossible or inaccurate, simply on account of the faulty preparation and shipping of material.

The diagnostic work having now become so extensive as to reach all parts of the State, I would suggest that all positive findings be reported to the State Health Officer. A tabulated statement of diagnostic work for the past year is appended.

SUMMARY OF LABORATORY WORK FROM DECEMBER 1, 1913, TO NOVEMBER 30, 1914.

| Kind of Specimen. Positive Negative Doubtful Total | | | | | |
|--|----------|--------------|----------|---------|--|
| Kind of Specimen. | Positive | Negative | Doubtful | Total | |
| Widal Tests: | | | | | |
| B. typhosus | 814 | 1568 | 144 | /199 | |
| B. paratyphosus | 94 | | | | |
| Sputa for T. B. | 197 | 655 | | 852 | |
| Hookworm ova | 174 | | | 1235 | |
| Rabies | 158 | 99 | 5 | 262 | |
| Gonococcus | 13 | 49 | 1 | 62 | |
| B. Diphtheria | 38 | 161 | 1 | 200 | |
| B. Coli in water | 141 | 79 | | 220 | |
| B. typhosus in feces | | 1 | | 1 | |
| Plasmodium Malaria | | 198 | | 228 | |
| B. Tuberculosis in discharges other than Sputa- | | 13 | | 13 | |
| | | | | | |
| Miscellaneous Pathogenic Organisms: | | | | | |
| Pyogenic cocci | 3 | 2 | | õ | |
| Pneumococcus | 2 | 1 | | 3 | |
| B. Leprae | 1 | | | 1 | |
| Meningococcus | 5 | 5 | | 10 | |
| | | | | | |
| Miscellaneous Intestinal Parasites other than | | | | | |
| Hookworm: Ameba Histolytica | 9 | 9.4 | 2 | กะ | |
| | | | | 35 7 | |
| Ascaris L. | 19 | | | 13 | |
| Tenia Nana | | | | 15 | |
| Strongyloides | 1 | | | 1 | |
| Miscellaneous specimens for identification: | | | | | |
| Feces—for vegetable fibre | | 11 | 1 | 1 | |
| Pus from tooth—for amebae | | 11 | | 1 | |
| as from toom for amosac | | | | | |
| T-4-1 | | | | 7220 | |
| Total | | | | | |
| Total examinations exclusive of hookworm | | | | | |
| Total specimens exclusive of hookworm | | | | 4342 | |
| Increase of 10 per cent over corresponding figur | o fon l | 0 at 110 | 0.11 | | |

(To be continued.)

QUESTIONS OF THE STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA, NOVEMBER, 1914.—Concluded.

Dr. John Lyon, Examiner.

Nurses:—Dietetics.

- 1. Mention some common methods to render milk more easily digested and explain their action. Describe the process of pasteurizing milk.
 - 2. Name two (2) foods belonging to the

proteid group, and two (2) foods belonging to the non-proteid group. Describe a method of cooking each food mentioned.

- 3. Mention some factors that influence the digestibility of eggs. Describe five (5) methods of serving eggs.
- 4. How is nourishment administered to (a) helpless patients? (b) unconscious patients? (c) diphtheria patients with a tube in the larynx?
- 5. What dietetic management is usually indicated in (a) vomiting? (b) diabetes mellitus? (c) acute nephritis?

Dr. J. J. Watson, Examiner.

Nurses:-Practice of Medicine.

- 1. Mention two diseases in which coma is liable to occur.
- 2. Define Dyspnoea. In what disease is it most likely to occur?
- 3. Mention the prominent symptoms of measles.
- 4. What are the most frequent complications of measles?
- 5. If a patient was not voiding how would you determine whether it was due to retention of urine in the bladder, or that the kidneys were not acting?

Dr. H. L. Shaw, Examiner.

Nurses:—Materia Medica and Therapeutics.

- 1. Thyphoid case has an intestinal hemorrhage, what drug would you use and in what dose?
- 2. Finding a patient with subnormal temperature, in pneumonia, what stimulant would you use?
- 3. What would you do for a case of Hyperpyrexia?
- 4. What are the therapeutic effects of a sponge bath and how is the bath administered?
- 5. Name antiseptic mouth wash you would use in a typhoid case. How used, and how often.
- 6. What are disinfectants? Mention one.

- 7. How would you treat a case of convulsions in a child?
- 8. In the absence of a physician how would you treat a patient who had taken an overdose of carbolic acid?
- 9. How would you treat a patient suffering from surgical shock?
- 10. What causes bed sores? How would you prevent them? When present, how would you treat them?

Dr. A. M. Brailsford, Examiner.

Nurses:—Physiology.

- 1. What changes are produced in the blood by respiration?
- 2. Give the functions of the gastric juice and mention its constitutents.
- 3. Describe the course of the circulation of the blood through the heart and lungs.
- 4. (a) What glands are found in the skin? (b) Give the function of each.
- 5. What phenomena occur when a nerve is suddenly and intensely irritated?

Hygiene.

- 1. How would you Pasteurize milk in a country home?
- 2. What hygienic precautions are necessary to insure healthy sleep?
- 3. If a sleeping room is not properly ventilated, what deleterious gases accumulate?
 - 4. Discuss the hygiene of infant feeding.
- 5. How would you protect yourself, while nursing a case of diphtheria, from contracting the disease and from becoming a carrier?

SOCIETY REPORTS

NEWBERRY.

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The regular meeting of the Newberry County Medical Society was held in Dr. O. B. Mayer's office, March 12th, with thirteen physicians present.

Dr. E. H. Moore read a very interesting paper on 'Pleurisy With Effusion," which was followed by general discussion.

Dr. J. M. Kibler was elected dele-

gate to the State Convention, and Dr. J. B. Setzler, alternate.

The meeting adjourned to meet again April 9th.

Z. T.PINNER,

President. J. B. Setzler, Secretary.

OCONEE.

The Oconee County Medical Society met at Walhalla, S. C., March

25, 1915. The following members were present: Drs. J. H. Johns, President; J. S. Stribling, Vice-President; W. A. Strickland, Secretary and Treasurer; J. W. Bell, B. F. Sloan, J. J. Thode, E. C. Doyle and J. W. Wickliffe.

Minutes of last regular meeting read and approved.

The Society at our last meeting decided to adopt the Cabot Papers as a course of study for this year, but as the papers had not been secured for this meeting Doctor Johns read a paper on Local Anesthesia. Doctor Johns' paper was carefully prepared and went into the minutiae of the subject. The Society took a good deal of interest in the subject of Local Anesthesia and several members participated in its discussion.

A communication was read from the Anderson County Medical Society proposing a change in the law governing the practice of medicine in the State. Upon motion of Dr. E. C. Doyle, our delegate was sent without instructions, being requested to vote as he sees fit after hearing the subject discussed in the House of Delegates.

Our next meeting will be held at Westminster, April 15, 1915.
J. H. JOHNS,

President. W. A. STRICKLAND, Secretary.

SPARTANBURG.

The Spartanburg County Medical Society had, at the regular meeting on March 26th, a very large attendance, Doctor Lindsay presided. We had several guests: Dr. E. A. Hines, Doctor Laws, of Converse College, and Doctors Grimm and Murlin, of the U. S. Pellagra Hospital, were visitors.

Doctor Potts read a paper on "When Bad Habits Should Best be Maintained and When Best Left Alone," this paper was discussed by Doctors Haynes, Allen, Black, and S. T. D. Lancaster.

All of the Society business having been attended to the members listened with great pleasure to Doctor Hines, who told of some of his observations made while abroad last summer where he was studying hospital organization and medical inspection of schools. Doctor Hines stressed the importance of good hospital facilities and medical societies, and told of the success of the Anderson Hospital which is controlled by the Anderson County Medical Society.

Doctor Black stated that he would soon be able to make an announcement which would be satisfactory to the Society, concerning the Spartanburg Hospital.

Dr. D. L. Smith spoke of the advantages in bringing the physicians together when the Medical Society owned the hospital and gave as illustrations Charleston and Anderson.

L. Rosa H. Gantt, Secretary.

SUMTER.

The regular monthly meeting of the Sumter County Medical Association was held March 5th, at the office of Dr. E. R. Wilson, with thirteen members in attendance. Dr. C. Fred Williams, Councilor for the Seventh District, was also present and discussed with the Society matters concerning the welfare of the profession and the advancement of medical affairs generally.

An interesting program was carried out, and a number of instructive clinical discussions were engaged in

by those present. Dr. Archie China submitted a valuable paper upon the administration of Chloroform in surgical operations, as against the use of ether and other general anesthetics which are advocated in some quarters.

The report of clinical cases of pyelitis and the discussions of its frequency, etiology, symptoms and treatment and especially the liability of the clinical picture to be confounded with that of malaria elicited great interest.

The next meeting will be held the first Thursday in April, at which time the Sumter County Nurses' Association has been invited to meet with them in joint session.

At the conclusion of the prescribed program, a social hour was pleasantly spent, enhanced by refreshments and professional reminiscences.

S. C. Baker, Secretary.

COLUMBIA.

The Columbia Medical Society held its monthly meeting March 8th, 1915. The Vice-President, Dr. J. H. Taylor, in the chair.

PROGRAM.

Dr. LeGrand Guerry demonstrated a case showing the post operative results following the removal of an Epithelioma of the Lip. Discussion by Drs. S. E. Harmon and Geo. Bunch.

Dr. J. H. Taylor demonstrated a case of Ankylosis of the Jaw, upon which he had performed a plastic operation with very favorable results. Discussed by Dr. Jane Bruce Guinard, Dr. D. S. Black, Dr. F. M. Durham, and Dr. S. E. Harmon.

Dr. F. M. Durham gave an interesting report of a case of "Dilata-

tion of the Stomach," which was found upon exploration to be due to an inoperable carcinoma of the pylorus. Doctor Durham stressed the importance of an exploration prior to the development of cachectic symptoms.

"Twilight Sleep According to Gauss of Frieburg," by Dr. Lindsay Peters. Discussed by Dr. R. A. Lancaster.

Dr. Isadore Schayer reported a case of Multiple Fibroma. Discussed by Dr. W. R. Barron, Dr. Lindsay Peters and Dr. J. H. Taylor.

Announcement made that Dr. Howard Kelly, of Baltimore, would give us a Lantern Slide Lecture in April.

The following physicians have recently been added to our membership: Dr. M. H. Wyman, Dr. Isadore Schayer, Dr. J. D. Moorhead, and Dr. L. D. Wells.

Edythe Welbourne, Secretary.

MEDICAL SOCIETY OF SOUTH CAROLINA—(CHARLESTON COUNTY).

Dr. Kenneth M. Lynch read papers on Trichomoniasis of the Vagina and Mouth, and of the Intestine, at the meetings of February 15th and March 1st.

He reported cases of these infections, showing catarrhal vaginitis and gingivitis, and chronic intermittent diarrhoea, with relief from the condition of the vagina and gums by alkaline washes getting rid of the organisms.

He also reviewed the experimental work which he has carried on with these organisms, announcing the initial cultivation of the Trichomonas in vitro and the transmission of the infection to lower animals, also proving the formation of en-

***0*0*0**

cysted cells from these organisms and the retransformation into active trichomonads, as well as other irregularities in form with the production of ameboid cells by changes in environment.

He also offered proof that the infection can be transmitted by means of water, milk and other liquids, contaminated with material containing the active Trichomonas and the cysts. and concludes that the pathogenicity of these protozoa is proven and that our present attitude toward the Trichomonas and its importance must undergo revision.

ALBERT NATHAN, Secretary.

SUMTER.

The regular monthly meeting of the Sumter County Medical Association was held yesterday afternoon, in the office of Dr. E. R. Wilson, with the members of the Sumter County Graduate Nurses' Association present as guests. There were about thirty-five nurses and doctors in attendance, and the following interesting program was carried out:

- 1. Obstetric Emergencies Met in the Experience of a Country Practitioner.—R. B. Furman, M. D.
- 2. Practical Points in the Administration of Normal Salt Solution.—Miss Lila M. Davis, R. N.
- 3. Some Medical Emergencies Met in the Daily Rounds of a General Practitioner.—M. L. Parler, M. D.
- 4. Practical Points in the Nursing of Scarlet Fever.—Miss Molly Smith, R. N.
- 5. Importance of Excluding Pyelitis From Fevers of Malarial Type. Diagnosis and Treatment.—H. A. Mood, M. D.

At the close of the business session refreshments were served and a delightful social hour was spent before final adjourment. The next meeting will be held the first Thursday in May.

S. C. Baker, Secretary.

BOOK REVIEW

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT—By D. Braden Kyle, A. M., M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Fifth edition, Thoroughly revised and enlarged. Octavo if 856 pages with 272 illustrations, 27 of them in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$4.50 net.

The author has given the profession, especially the general practitioner, a most excellent treatise. He has endeavored to be brief but clear and has succeeded. Many of the newer phases of advancement, such as Vaccine Therapy, have been elucidated. The illustrations are good and will prove very helpful to the student.

INTERNATIONAL CLINICS.—A quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Volume 1. Twenty-fifth Series, 1915. Philadelphia and London: J. P. Lippincott Company. Price, \$2.00.

Doctor Osler has an interesting article on Polycystic Kidney which he says is a rare disease. He cites two cases. Dr. Horace Greeley, of Brooklyn, N. Y., describes the Routine of Practical Vaccine Therapy.

Skillen, of Philadelphia, relates in a clever manner his observations at the Murphy Clinic, Mercy Hospital, Chicago.

A highly instructive chapter gives in detail the progress of medicine in 1914, beginning article with comments on the world war.

Beadsley writes up two visits to McCrae's Clinic, Jefferson Medical College, and gives him credit for being a deservedly popular and successful clinician.

INFECTION, IMMUNITY AND SPE-CIFIC THERAPY.—A Practical Text-Book of Infection, Immunity and Specific Therapy with special reference to immunologic technic. By John A. Kolmer, M. D., Dr. P. H., Instructor of Experimental Pathology, University of Pennsylvania, with an introduction by Allen J. Smith, M. D., Professor of Pathology, University of Pennsylvania, Octavo of 899 pages with 143 original illustrations, 43 in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This is one of the most facinating fields in modern medicine and every physician must necessarily become familiar with the principles of Infection, Immunity and Specific Therapy. The volume before us presents the whole matter very clearly and comprehensively. Most of the illustrations are creditable in that they really teach something the reader could not catch otherwise.

There are nearly one thousand pages, and we would advise every doctor to purchase the book and read it from cover to cover.

THE CLINICS OF JOHN B. MURPHY, M. D.—Volume IV. Number 1. (February, 1915.) The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume IV. Number 1. (February, 1915.) Octavo of 185 pages, 41 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year; Paper, \$8.00; Cloth, \$12.00.

Murphy continues in this number his illuminating talks on Surgical and General Diagnosis. He gives us an exhaustive article on Intestinal Fistulas.

Dr. Harvey R. Gaylord gave a talk in the clinic on Cancer Research work which is quite interesting.

Posterior dislocation of the Spine has been carefully considered with citation of cases and treatment of same.

These are only a few of the good things to be found in the February number.

MEDICAL ELECTRICITY AND ROENT-GEN RAYS AND RADIUM.—Second Edition, Thoroughly Revised. Medical Electricity and Roentgen Rays and Radium. By Sinclair Tousey, A. M., M. D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second edition, thoroughly revised and enlarged. Octavo of 1219 pages, with 798 practical illustrations, 16 in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$7.50 net; Half Morocco, \$9.00 net.

Only an expert would be competent to review this book from every standpoint. It is a comprehensive volume of 1219 pages and it appears to us that the subjects have been handled with great thoroughness. X-Ray therapy claims considerable attention from the author as it should do with the present rapid advances in this branch of medicine and surgery. Radium's claims as a therapeutic agent has been conservatively handled and clearly presented.

X-Ray as a means for the study of anatomy is suggested by the author.

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Mailers Bidg., 5 S. Wabash Ave., CHICAGO, ILL. 18 E. 41st Street, NEW YORK CITY. PRINCIPLES OF HYGIENE.—The New (5th) Edition. Principles of Hygiene: For Students, Physicians, and Health Officers. By D. H. Bergey, M. D., First Assistant, Laboratory of Hygiene and Assistant Professor of Bacteriology, University of Pennsylvania. Fifth edition, thoroughly revised. Octavo of 531 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$3.00 net.

This is a highly creditable book from many points of view. It is well printed and bound and is not too unwieldly for ready reference. A book to reach five editions must have considerable merit, and we believe the work before us has many attractive features. Almost the whole subject has been covered in a brief but satisfactory manner.

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South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

GOTTLOB AUGUSTUS NEUFFER, PRESIDENT. 1915.

NEUFFER, GOTTLOB AUGUSTUS, M. D., physician and surgeon, was born in Orangeburg, Orangeburg County, March 14, 1861. His father, Gottlob Augustus Neuffer, a merchant, came to this country in 1838, from Basingheim, Wurtemburg, Germany, and settled in Charleston. He was a man of marked energy and perseverance, social in disposition, of liberal heart, and a great reader. His mother, Maria Louisa Neuffer, was the daughter of Christian David Happoldt, who also came to this country from Wurtemburg. She exerted a strong influence upon the

moral, spiritual and intellectual life of her son, who, in looking back over his life, names his mother as the source of his first strong impulse to strive for success.

Under happy home influences Gottlob Neuffer grew up in a village and city to be a strong and healthy boy. He attended the primary schools in Orangeburg, and later the Bennet school in Charleston. When eleven years old—as circumstances compelled him to earn his own livelihood—he found employment in a drug store. Although his school training ceased early, his natural fondness for reading and study, under the direction of his mother, enabled him to become one of Amer-

ica's many self-educated men. In 1879, although one year under the required age, he passed the examination of the State Board of Pharmaceutical Examiners and was granted a license as pharmacist. Three years later he entered the Medical College of South Carolina, from which institution he was graduated in 1884, with the degree of M. D., ranking third in a class of twenty-two.

After leaving college he served for one year as house surgeon in the City Hospital of Charleston. 1885 he began his professional career as physician and surgeon in Abbeville. In 1901 he supplemented his course at the medical college by a post-graduate course in the New York Polyclinic. Apart from his professional career, Doctor Neuffer has taken an active interest in public affairs. He is an alderman of Abbeville, is a member of the Knights of Pythias, of the Knights of Honor, and of the Independent Order of Odd Fellows. He has been grand chancellor and supreme representative for South Carolina in the Knights of Pythias, and has been grand master and grand representative of the Independent Order of Odd Fellows. He has also taken an active part in the State militia, and was surgeon general on Governor Heyward's staff. In politics he is a Democrat, and in religion, a Methodist.

In reviewing his life, Doctor Neuffer declares that home, private study, early companionship, contact with men, and school training, each in order named, have been of greatest importance in shaping his career; and to all young men, whom the story of his success may inspire, he says: "Prompt discharge of duty, systematic study, and perseverance in purpose, will bring success."

Doctor Neuffer has been married twice: First, in 1889, to Annie Arnett Hemphill, daughter of Senator R. R. Hemphill; and in 1902, to Florence Rebecca Henry, daughter of Francis Henry, of Abbeville. Gottlob Neuffer, third, is the son of his first wife, and his three daughters and three sons are the children of his second marriage.

Doctor Neuffer has been president of his County and District Medical Societies—also president of the Seaboard Air Line Surgeons Association—has been surgeon at Abbeville for the Seaboard Air Line Railway for twenty-two years. Is now vice-president of the Tri-State Medical Society. Been a member of the South Carolina Medical Association for about twenty years, and has always been a hard worker for organized medicine.

Doctor Neuffer has been chairman of the Council for a number of years, and has rendered signal service in this capacity, owing to his splendid executive ability and wide knowledge of Association affairs.

Our new president has not been unmindful of his obligations to his profession in a scientific way, for scattered all along his twenty years as a member of the State Medical Association are to be found valuable contributions to the literature from his pen.

SUCCESS OF THE GREENWOOD MEETING.

We believe that we are not simply making use of a stereotyped expression when we say that the meeting of the State Association at Greenwood, April 20-22d, was a marked success. The attendance surpassed any number hitherto recorded. For scientific interest the program has



GOTTLOB AUGUSTUS NEUFFER, M. D., PRESIDENT, 1915.



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had the unqualified approval of those who were fortunate enough to be The efforts of the Greenpresent. wood profession and of the citizens generally proved to be equal to every The deliberations of the House of Delegates were saddened by the sudden death on the floor of Delegate S. L. Swygert, representing the Greenwood County Medical Society, and all the entertainments were called off out of respect to his memory. The work of the House was carried on with smoothness and promptness by the guiding hand of President Edward F. Parker.

Public Health Sunday proved to be a most attractive feature of the program, and the addresses by Doctors Kelly and Thayer were highly instructive and appreciated. The officers elected for the year 1914-15 and the place of meeting—Charleston, leaves little to be desired to assure the Association another markedly successful year.

MINUTES HOUSE OF DELEGATES.

It is with pardonable pride that we begin the publication in this issue of the minutes of the House of Delegates. The reports of the officers and the various committees deserve careful perusal, for there is a commendable note of progress in State Association affairs evident. Owing to the space taken up by the minutes some other matter will necessarily be crowded out, including scientific editorials by our associate editors.

ORIGINAL ARTICLES

PRESIDENT'S ADDRESS, 1915—GREENWOOD, S. C.

*By Edward F. Parker, Charleston, S. C.

A TIME HONORED custom permits me to express my appreciation of the honor of being President. After nearly twenty-five years membership, of those who were prominent and active in the direction of the Association when I joined, few are living—among these for conspicuous loyalty I mention Drs. Grange Simons, O. B. Mayer and J. L. Napier. Doctors Taylor, Porcher, Parker, Kinloch, Moore, Kollock, Taber, Evans, Bratton, Nardin and Croft, have all gone to their reward. Dur-

ing this time our traditional ethical standards have undergone, much to our credit, little, if any change. Before, and when I first joined the Association, the code of ethics was often used as a means of venting some personal animosity in State and County Associations, now it is rarely ever used for such reasons. We should all read The Principles of Ethics and the Constitution of this Association. Many who criticise and complain have never done so.

"The purposes of the Association are to federate and bring into one compact organization the entire medical profession of the State of South Carolina, and to unite with similar Associations in other States to form the American Medical Association; to extend medical knowledge, and to advance medical science; to elevate

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

the standard of medical education and to secure the enactment and enforcement of just medical laws; to guard and foster the material interests of its members; and to direct public opinion in regard to the great problems of State medicine, so that the profession should become more capable and honorable within itself, and more useful in the prevention and cure of disease."

In the oath of Hipprocrates, 480 years before Christ, we were pledged to respect those who taught us what they knew, not to divulge the secrets of patients, not to practice solely for reward, not to seek advertisement, not to improperly solicit business, to treat gratuitously our colleagues, and to uphold the dignity of a profession respected by all men in all ages. There are a few more specific rules of conduct in the Code of Ethics today.

Our faith in a few drugs increases with the passing years, and our faith in most of them diminishes. The boundless credulity of patients is slowly passing with increasing education, and our attitude toward the public is daily more sincere, honest and intelligent; always remembering that our ignorance of the healing art is greater than our knowledge of it. Medicine is distinctly a conservative science. The economic value of health is now fully recognized and the training of medical men is developed with a view to his broader relations to the public. For the first time in our history, a physician holds the rank of Major General. Panama Canal has been opened and physician, Doctor Gorgas, has proved that a pestilential swamp can be made a health resort by the application of the rules of scientific sanitation.

The history of medicine is the history of mankind. It has had its savants and its fakirs, and still has them, but, it has always, and still attracts men of the purest motives and men of the basest. It is our purpose to debar the latter because they live on ignorance and credulity.

The South Carolina Medical Association was organized in Charleston, in 1848, as a result of a call by the Medical Society of South Carolina (Charleston) which was chartered in 1789. It is interesting to note that the three first motions for discussion at this initial meeting were to urge that medical students have a proper and suitable preparatory education, to urge a proper registration of births, marriages and deaths, and to urge that the sale of nostrums and patent medicines should be discouraged.

The advertising columns of the newspapers, and especially religious papers, have always been and still are the greatest enemies of honest medical practice. The medical advertisements accepted and printed by most of the newspapers in South Carolina are deceptive and fraudulent as far as the public is concerned, and the owners, editors or managers of these, are intelligent enough to know it. Our profession has honorably and honestly eliminated all such advertisements in spite of financial loss. We may courteously appeal to the newspapers with benefit, I feel sure, but I earnestly urge the passage of the Printers Act Law, already passed in the following States: Connecticut, Indiana, Iowa, Maryland, Massachusetts, Minnesota, Michigan, Nebraska, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Washington, Wisconsin, Louisiana. It reads as follows:

"Any person, firm, corporation or association, who, with intent to sell or in any wise dispose of merchandise, securities, service, or anything offered by such person, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein, makes, publishes, disseminates, cirlates, or places before the public, or causes directly or indirectly to be made, published, disseminated, circulated or placed before the public in this State, in a newspaper or other publication, or in the form of a book. notice, hand bill, poster bill, circular, pamphlet or letter, or in any other way an advertisement of any sort, regarding merchandise, securities, services, or anything so offered to the public, which advertisement, contains any assertion, representation or statement of fact, which is untrue. deceptive, or misleading, shall be guilty of a misdemeanor."

Only political reasons and those not able to bear the light of publicity should prevent the passage of such a law, and if passed the abuse referred to, will be corrected to some extent at any rate. I wish to say that in the editorial columns, the newspapers of the State, have always given the the State, have already given the support we could wish to the advancement and improvement of medical education and medical practice. For this we are indebted and duly appreciative.

I wish to sound a note of warning in regard to Osteopaths and Opto-

metrists. If these confined their work to massage and the fitting of glasses, they would be worthy of our support, but their tendency is to practice medicine, without the safeguards and education required of us. They promise, in the future, to be short cuts or side doors to regular medical practice.

This Association is more deeply interested than ever, I believe, in the State Board of Health, the State Board of Eaminers, The Journal, and the State Medical College, and purpose to try and further each and all in the maintenance of proper standards.

The total appropriation for the State Board of Health this year was \$54,676.00, which was the largest, by over \$12,000.00, that has ever been made by this State for its use. This amount, however, includes \$11,000.00 for the Tuberculosis Hospital and \$5,000.00 for the Bureau of Vital Statistics.

The State Board of Medical Examiners have issued their transactions, and a copy of the questions asked, have been published in our Journal, for your information. The statistics of State Boards are corrective and advantageous to Medical Colleges, if both are honestly and efficiently conducted.

The Journal occupies a conspicuous place in holding together the profession in the State. Doctor Hines's report shows its condition excellent financially: editorially, it is ably conducted and merits our commendation and support. The Journal owes its existence to the suggestion of Dr. Robt. Wilson in his address to the Association at Greenville. On April 12th, 1905, the publication of a monthly Journal was authorized by the House of Delegates, under the direction of the Council, and the fol-

lowing unanimously recommended as editor, and associate editors, respectively: Dr. Robt. Wilson, Jr., T. P. Whaley, and C. P. Atmar, of Charleston. The first issue appeared June 12th, 1905, and was published in Charleston. Its first editorial gave credit to Dr. W. P. Porcher for suggesting the establishment of The Subse-Journal in the year 1500. quently Dr. J. W. Jervey, of Greenville, became editor with Dr. Walter Cheyne, of Sumter, as associate editor, and Dr. C. B. Earle, of Greenville, as business manager. Later Dr. F. H. McLeod, of Florence, held the office of editor for one year, and at the sixty-second annual meeting at Laurens in 1910, Dr. J. C. Sosnowski, of Charleston, succeeded him. Journal was removed to Charleston, S. C., in 1910, where it remained until January 1st, 1912. At this period in The Journal's history it seemed wise to merge the offices of Editor of The Journal and Secretary of the Association, as was being done in many State Societies, and Dr. E. A. Hines, became Editor-in-Chief, and the business office was transferred to Seneca. With the union of the office of Secretary and Editor and later Treasurer, our general expenses were greatly reduced and a serious obstacle to steady progress was eliminated. It is worthy of note that on January 1st, 1914, with great financial loss, all advertising matter was eliminated from The Journal which did not meet the approval of the Council on Pharmacy and Chemistry of the American Medical Association, thus boldly seeking to protect the public purse as well as the public health.

The State Medical College at Charleston, chartered in 1823, and about the fifth oldest in the United States, is destined, I hope, to be of

increasing service and a source of great pride to the profession. It is now well equipped to educate properly those who wish to practice medicine. The Roper Hospital is managed by the County Society and the city provides \$40,000.00 for its maintenance annually. The new laboratory and administrative building is just opposite and about \$32,000.00 was appropriated by the State, this year, for its maintenance. The College has twenty-nine professors, including eight full time professors, and thirty-three lecturers, a museum of the highest character, requisite preliminary requirements, ample laboratory and hospital facilities, a large maternity service, controls through the Medical Society a hospital in close proximity, and operates a large out-patient dispensary department. It fully deserves to be classed as a College equipped and administered to give satisfactory medical education.

A few decades ago, a series of medical lectures or courses could include but five or six topics, now the field is divided into many specialties. Today the essentials of an acceptable medical college, as formulated by the Council on Medical Education of the American Medical Association, are, first: for admission, four years high school, plus one year college work, including physics, chemistry biology, and a reading knowledge of French or German; second: fully graded courses of four years, thirty-two weeks each of (a) two-year laboratory work, in anatomy, histology, embryology, physiology, chemistry, bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis: (b) two years of clinical work in hospitals and dispensaries with courses in internal medicine, surgery, obstetrics, gynecology, laryngology, rhinology, opthalmology, otology, dermatology, hygiene, pediatrics, nervous diseases, and medical jurisprudence; third: six full time salaried professors in charge of laboratory branches, etc.; fourth: college to own or control a hospital in close proximity and operate a dispensary and out-patient department; fifth: six maternity cases for each senior student; sixth: a library and a museum.

The colleges are graded or rated on, first: the showing of graduates before State Boards; second: enforcement of required standards; third: character of the curriculum; fourth: school buildings, etc.; fifth: laboratory facilities, etc.; sixth: hospital and dispensary facilities; seventh: number, training, etc., of students; eighth: libraries, museums, etc., and the use made thereof.

In 1896, there were 162 medical colleges in the United States. 1915, there are 100. The diminution in the number and the better facilities of the remaining ones are largely due to the investigation of the Council of the American Medical Association. In considering the medical schools in the United States it is necessary to keep in mind the educational and financial status of the communities in which the medical schools are situated. To classify them intelligently, we must consider the number of students and the means and equipment for their education. As to money endowment, luxurious furnishings, etc., we may as well attemp to classify the State universities of the United States. A strict classification has served its purpose and some looser grouping is The Council on Medical desirable. Education has done a great work, but its limitations are well defined from a common sense standpoint.

The ideal training in medicine now makes a man about thirty years old before he is ready to start to make a living. This includes four year's academic work, four year's in the medical school, one year in hospital service, and perhaps a year abroad. Medicine should and does attract excellent men, and if earnest, the financial rewards are adequate and better than in most professions, but if these requirements continue to expand only the rich can afford to study medicine.

The Medical School must educate physicians to treat diseases, and give advice about the ills that afflict humanity, but more than this it must teach how to prevent disease and how to meet the ever-changing conditions which advancing civilization produces. Preventive medicine is now, in fact, one of the chief aims of our profession. The public should be taught the limitations of the science of medicine in any period of time and a knowledge of the causes and course of disease is worth while. And along these lines popular lectures on medical subjects are to be encouraged.

The social possibilities of the medical man and his influence in the community, depend to a large extent on his preliminary education and general culture. The medical student should enter a medical school with a liberal education and training in the sciences fundamental to medicine. With the advancement in our medical educational requirements, we need higher high school or college requirements in South Carolina, or many deserving young men will be unable to study medicine.

A closer relationship between hospitals and medical colleges is one of the many features that mark the advance of medical teaching, and it

means that students have a better training and the public better qualified physicians. The most important things to emphasize in medicine, are preliminary education, and high standards of teaching and training in the first two years of the course. Those who survive this experience are usually well qualified to take advantage of the two clinical years and graduate with a good foundation for practice. All will need actual experience in private work no matter how many years they study.

There is no question that the remarkable improvement in the medical colleges now existing will result in a greatly improved medical profession and will insure for the people better qualified physicians. All honor to our profession for this development. The only marvel of it is, that it should be the only profession that exacts of its own accord this progressive improvement, without demanding correspondingly progressive rates of remuneration.

At present this Association and the State Medical College are certainly intimately bound together and I know of no higher aim or better purpose than the advancement of medical education and the maintenance of medical professional character in the broadest sense, as reasons for our existence. They were the foundation principles of the founders of this Association. With higher qualifications for the degree of Doctor of Medicine our membership will be better qualified and better able to serve its purpose.

Every honest, intelligent practitioner in the State should feel a pride in belonging to his County State and National Associations, and should cultivate an interest in their meetings. Physicians waste more time and have more meetings than

any other profession under the sun, and this tendency is always increasing. As a consequence their domestic life, notoriously unsatisfactory, is needlessly sacrificed and their business interests often neglected.

Modern life seems to be developing itself in either a mania for work or a craze for pleasure; but still to every soul, life interprets itself in its own terms, and there is certainly "a divinity that shapes our ends, rough hue them how we may."

Creeds have changed, religious doctrines have changed, but our profession yields to no other the heritage of an unchanging faith for more than two thousand centuries, in the same standards of honorable professional conduct. With the blessing of God, it can not be disputed that medicine has added more to the happiness and progress of the human race than any other science.

THE EARLY DIAGNOSIS OF TYPHOID FEVER BY THE USE OF BLOOD CULTURES TAKEN INTO OX BILE.

*By R. L. McCrady, M. D., Montreal Canada.

HE EARLIEST possible diagnosis of any disease is of the greatest importance from the standpoint of both the patient and the attending physician. This is especially true in infectious and contagious diseases, and in those diseases where specific therapy is known, or where there is some special therapy which experience has proven to be of the most benefit.

It can scarely be considered suffi-

^{*}House Surgeon Montreal General Hospital, Montreal, Canada. Late Interne in Roper Hospital, Charleston, S. C.

^{*}From the Pathological Laboratory of the Montreal General Hospital.

cient when dealing with an infectious or contagious disease, if the attending physician takes into consideration his patient alone, but it also is his duty to bear in mind the community at large.

Among the diseases where the well-being of the patient and the community are seriously involved is typhoid fever. The early diagnosis of this disease makes not only possible the early application of special therapeutic measures, but assists materially in the prevention of other cases, or even a single case developing either directly or indirectly from the case in hand.

The conception of typhoid fever as a disease has changed considerably during the past few years, and certain aspects of this new conception are important in their relation to possible early positive diagnosis by means of laboratory methods. I refer to the fact that typhoid fever is now generally considered to be primarily a bacteriemia.

The diagnosis of typhoid fever, like that of many diseases, has passed the period when it was made wholly upon objective or subjective clinical phenomena to the application of the more exact laboratory methods, the use of which is practical and simple and makes possible a very early diagnosis of the disease.

The use of cultures made from the circulating blood planted into ox bile has now been used for several years, and has been for some time, a part of the routine of the Montreal General Hospital. It is to the results of this method, as applied to a series of cases which have come within my personal knowledge, that I wish to refer.

The routine established as the Montreal General Hospital is as follows:

A blood culture is taken into ox bile at once from all patients who enter the hospital with, or develop symptoms while in the wards, suggestive in any way of their being due to infection with Bacillus Typhosus. Culture tubes containing 10 cc. of ox bile medium are kept in the wards. A satisfactory ox bile is made as follows:

Ox Bile______ 90 cc.
Glycerine _____ 10 cc.
Peptone _____ 2 gms.

This medium consists of ox bile, which has been subjected either to fractional sterilization, or sterilization by means of the autoclave, for the usual time. This is done in order to kill any organisms which may be present in the bile when it is obtained. Blood is obtained from the suspected case of typhoid fever, usually from the median basilic vein at the elbow, the arm having been previously cleaned with green soap and water, ether and alcohol, or alcoholic bichloride. The usual proportion of blood and ox bile is one-third as much blood as there is ox bile.

An easy and practical method to obtain the required amount of blood necessary, is by means of a syringe needle, to which is attached a short rubber tube. The needle, with its attached rubber tubing, is sterilized by boiling just before it is to be used. If slight pressure is applied to the arm near the shoulder, the large veins at the elbow stand out prominently and can be punctured easily with the needle. As soon as the needle enters the vein, blood flows from the attached rubber tube, and can be collected in the tube containing the ox bile. The blood thus collected in the bile is placed in the incubator at 37 degrees C., for from seven to twelve hours, when a portion of it is transferred to a tube of

agar. This in turn is allowed to incubate from eight to twelve hours. If typhoid bacilli are present, it only remains to identify the organism.

It is our rule to report at once, all gram-negative bacilli recovered by the method referred to above, as probable B. Typhosus. This is done in order that the clinician may give instructions in regard to the treatment of the case, and direct such precautions as are necessary to prevent any infection spreading from it. Such a tentative diagnosis does not always prove to be correct, as the para-typhoid group of bacilli cannot be differentiated from B. Typhosus by such a measure.

The final identification of the organism in question, is made by passing it through those sugars that offer means of definite differentiation between the organisms in question. In most cases, however, the development on the agar medium of a gramnegative motile organism is all that is necessary, for practical purposes of diagnosis as the treatment of individuals infected with B. Typhosus and Para-Typhosus, is very similar.

The time required for the complete identification of the B. Typhosus depends largely upon the time when organisms develop on the agar into which the original bile culture has been planted.

As a rule, a single transplant from the ox bile is sufficient to recover B. Typhosus or B. Para-Typhosus, which will, in most instances, develop within seven to twelve hours after the transplant. There are instances, however, where two or even more transplants from the bile are made before a growth develops on the agar. We feel that the knowledge of this fact is an important one, and we have established as a routine the following:

The original bile culture is first transplanted on to agar, using a comparatively large amount of bile. If, after eight hours, no growth appears, more of the original blood in the bile is added to the agar, and if no growth develops in twelve hours, another transplant is made. This procedure occasionally has to be repeated two or three times. The strict adherence to this rule has, on several occasions, resulted in a positive finding which otherwise would have been reported negative.

Occasionally one finds that skin cocci develop in the bile medium and lead to some difficulties, but contamination with these cocci are comparatively uncommon, and their presence usually means faulty technique in obtaining the blood. While these contaminations do not always prevent the recovery of B. Typhosus, they add difficulties to the work.

It is well known that the earlier the blood cultures are taken in the course of typhoid fever, the higher percentage of positive results are obtained. As a result, the use of this method is especially adapted to private patients. Hospital patients do not as a rule apply for admission until the disease has been present a sufficient length of time to make them not only incapacitated for work, but to make their treatment at home impossible. The exact time of the onset of those diseases, in which the incubation is insidious, is difficult to establish in patients who enter public hospitals. This type of patient dates the onset of his illness from the time symptoms prevented him from working. As a result, a higher per cent of early positive bacteriological diagnosis of typhoid fever should be made in private patients than in hospital cases.

The series of cases to which I wish

to refer, embrace those that entered the Montreal General Hospital between September 1st, 1914, and January 15th, 1915. Not all of them proved to be typhoid, but the early clinical findings were sufficiently suggestive to warrant a blood culture being taken. In all, there were seventy eight cases examined, and sixty of these proved to be typhoid fever. I will only refer to these latter cases.

In the majority of these cases, the approximate stage of the disease at the time the blood was taken is known. In blood cultures made from thirty-nine of them, the typhoid bacillus was recovered. In regard to the stage of the disease when the blood was taken from the thirty-nine cases, in fourteen it was taken between the second and the seventh day of this disease. Six cases had been ill for two weeks; one case had been ill four weeks, and one case for thirty-eight days (relapse). In the remaining seventeen cases, no definite time is obtainable as to the duration of the illness.

It can be seen from this that the duration of the disease is fairly well known in twenty-two of these positive cases, and of these, the majority, or fourteen, are found to have been taken between the second and seventh day of the disease.

Blood cultures made from twentyone cases of clinical typhoid fever
were negative. The duration of the
disease in most of these cases is
known. In four, cultures were made
three weeks to a month after the
onset; eight specimens were taken
ten days to two weeks after the onset;
four cases were taken from the second to the seventh day; and of the
remaining five, no definite time is
given. In other words, the major-

ity of the positive results are found to have been taken early in the disease. The majority of the negative results were taken late in the disease.

To sum up the results, we find that of the entire sixty cases, thirty-nine, or 65 per cent, gave positive blood cultures, regardless of the stage of the disease at which the blood was taken. Some of these cultures were made in the third, and some in the fourth week of the disease.

There were fourteen positive, and four negative results from cultures made during the first week of the disease, or 77 per cent positive.

CONCLUSIONS.

- 1. The earliest possible diagnosis of typhoid fever is important, not only in the interests of the patient, but in the interests of the community at large.
- 2. It is easy, safe and practical, to make a routine blood culture in all patients with symptoms suggesting typhoid fever.
- 3. Gram-negative motile bacilli recovered from blood cultures taken in ox bile will, in most cases, prove to be B. Typhosus.
- 4. In the series, referred to above, we have obtained positive blood cultures from 65 per cent of the specimens of blood examined.
- 5. We have obtained positive results from 77 per cent of those cultures made during the estimated first week of the disease, taking the patients' word for the date of onset.
- 6. From our experience, we believe the use of blood cultures taken into ox bile is practical in private practice, and its application would hasten a positive diagnosis.

REPORT OF DIRECTOR OF LABORA-TORY.—Concluded.

PASTEUR DEPARTMENT.

The total number of applicants for immunization against rabies was 297 this year against 356 for the previous year. All immunizations were successful, there being no deaths from rabies during the year. One patient died during the first week of treatment, ten days after being bitten, but the attending physician was not able to obtain consent to an autopsy and was not certain of the cause of death. It is possible that either toxemia or hypersusceptibility to the treatment was the true cause. but in the absence of accurate data which could not be obtained, this can not be considered as proved.

During the year exhaustive experiments with the quinine treatment for rabies, both preventive and curative, were carried out, out they were uniformly unsuccessful, and agreed in this respect with reports from other investigators, and also with reports from human cases in which the treatment was tried. Salvarsan, Fuchsin and Trypan red were also tried as curatives, without result. The Koon treatment, an advertised preventive was also tested under ideal conditions and found to be without value. So the misty hopes of a year ago have faded before the bright light of practical experimentation, and rabies and certain death still remain synonymous terms.

I would recommend again that your Board interest itself in procuring an adequate dog-licensing law. Such a law would go far towards lessening the cases of rabies, would not meet with such popular opposition as a muzzling ordinance would arouse, and, if placed under the ad-

ministration of the State Game Warden, could be effectually enforced by his officers.

The number of persons whom we have treated in the Pasteur Department having now reached and passed the one thousand mark, a summary is appended. We have a failure percentage of 3-10 of one per cent, and a total mortality of slightly under 8 per cent. These figures are satisfactory and indicate that the treatment furnished by our State has equalled in efficiency that of any other Commonwealth.

| WORK IN PASTEUR DEPARTMENT, | 1914 |
|---|------|
| Total number of person applying for treatment | |
| Under treatment Dec. 1st, 1913_ | |
| Under treatment Dec. 1st, 1914_ | |
| Discontinued | |
| *Died | ĺ |
| Total complete treatments | |
| Total death rate from rabies | 0 |
| | |
| LOCATION OF BITES OR WOUNI | os. |
| Face and head | 14 |
| Bare hand or foot | 72 |
| Other uncovered surface | 46 |
| Through clothing | 37 |
| Doubtful exposure | 22 |
| No information | 124 |
| DIAGNOSIS. | |
| Animal proved rabid by labora- | |
| tory diagnosis in cases of | 252 |
| Animal not proved rabid by | |
| laboratory diagnosis in cases | |
| of | 63 |
| Treated at laboratory | 88 |
| Treated at home | |
| Troubou ut nome | 1 |
| AGES. | |
| Under 5 years | 43 |
| Enoug F 4- 10 | 100 |

From 5 to 16 years_____ 136

*White, female, age 7; Greenville, S. C.;

cause undertermined.

| From 16 to 50 years 92 Over 50 years 6 | Oldest patient, years 77 Youngest patient, months 1 |
|--|--|
| Age not ascertained 38 | Treated by request 2 |
| SUMMARY OF WORK AND RESULT July 1st, 1909—Nov | |
| Years 190 | 09 1910 1911 1912 1913 1914 Total |
| No. persons beginning treatment 2 Under treatment first of year Brought over from previous year Voluntarily abandoned treatment Died during treatment Under treatment December 1 | 7 121 114 176 356 297 1091 8 2 17 18 (4)* 8 2 17 18 2 5 3 12 22 24 68 2 1 1 |
| Total complete treatments Deaths from Rabies Deaths from Enteritis Deaths from cause undertermined, by Failures of immunization | at not rabies2 |
| Total deaths | |
| LOCATION OF BIT | DEC OD WOUNDS |
| Face and head Bare hand or foot Other uncovered surface Through clothing Doubtful exposure Not determined Number of cases in which biting anim | 83 292 175 269 34 238 |
| ratory test | 859 |
| Treated at home2 Treated at Laboratory2 Deaths—Cases treated at laboratory2 causes, 1; failures, 2. | 5 114 92 27 39 88 385 atory: From Rabies, 3; from other From Rabies, 4; from other causes, |
| Under 5 years | |
| From 5 to 16 years | |
| From 16 to 50 years Over 50 years | |
| Oldest patient, years | 77 |
| Youngest patient treated, weeks | |
| Ages in remainder of cases not | ascartainad |

| MICROSCOPIC EXAMINATIONS FOR | DIAGNOS | SIS RAI | BIES I | N AN | IMALS | |
|--|----------|---------|--|-------------------------|-----------|-----------------|
| Years 190 | 09 1910 | 1911 | 1912 | 1913 | 1914 | Total |
| Positive | 13 55 | 64 | 84 | 165 | 158 | 539 |
| Negative | 12 27 | 35 | 47 | 97 | 99 | 317 |
| Doubtful (decomposed) | 4 3 | 10 | 18 | 9 | 5 | 49 |
| Total examined | 25 82 | 99 | 131 | | | 856 |
| | 29 85 | 109 | 149 | | | 905 |
| Total positive, per cent | | | | | | 63 |
| SUPPLEMENTARY REPORT OF LA | BORATOR | RY WO | RK—D | ecemb | er, 191 | 4. |
| Kind of Specimen. | | Posi | tive Neg | ative Do | oubtful T | Total |
| Widal Tests: | | | | | | |
| B. Typhosus | | | 40 | 56 | | 105 |
| B. Paratyphosus | | | | $104 _{-}$ | | 105 |
| Sputa for T. B. | | | 8 | 37 <u>-</u> 26 <u>-</u> | | $\frac{45}{33}$ |
| Rabies | | 3 | 13 | - 41- | | 55 17 |
| Gonococcus | | | 1 | 3 _ | | 4 |
| B. Diphtheria | | | 10 | 3 _ | | 13 |
| B. Coli in water | | | 2 | | | 4 |
| Plasmodium MalariaB. Tuberculosis in discharges other th | nan Sput | a | | 10 _ | | 10 1 |
| | | a | | | | 1 |
| Intestinal parasites other than Hoo | okworm: | | 4 | 977 | | 9.0 |
| Ameba Histolytica | | | $\begin{vmatrix} 1 \\ 7 \end{vmatrix}$ | 37 | 1 | 38 7 |
| Tenia Nana | | | 1 | - | | í |
| | | | | | | |
| Miscellaneous specimens for identifi | cation: | | 4 | | | 76 |
| Round WormCulture | | | 1 | | | 1 1 |
| Total examinations | | | | | | 280 |
| | | | | | | |
| PASTEUR DEPARTMENT, DEC., 1914. | | | | | | |
| Under treatment st December, | | | | | | |
| 1914 4 | Treated | | | | | |
| Applying for treatment during December, 1914 13 | Treated | at no | me | | | 15 |
| December, 1914 13 Discontinued 1 | TOGAT | NON O | ישום הי | EG OD | MOII | MDC |
| Under treatment 1st January, | LUCAT | TON U | r bii. | es un | wou: | NDS. |
| 1915 10 | Face ar | | | | | |
| Total completed treatments dur- | Bare ha | | | | | |
| ing December 6 | Other u | | | | | |
| AGES OF PATIENTS. | Through | | | | | |
| Under 5 years 2 | Doubtfu | | | | | |
| From 5 to 16 years 6 | No info | | | | | |
| From 16 to 50 years 5 | No. 1 co | | | | | |
| Over 50 years 0 | rin d | istribu | ited - | | | 628 |
| DIAGNOSIS. | Respe | ectfull | y subi | mitted | l, | |
| Dog proved rabid by labora- | | F. | A. Co | WARD | , M. I |) |
| bog proved rabid by labora. | | | | | | , |

10

tory test _____

Director of Laboratory.

Minutes of The House of Delegates---Sixty-seventh Annual Meeting of the South Carolina Medical Association, Greenwood, S. C., April 20, 1915---Continued.

The House was called to order by the President, Dr. Edward F. Parker, of Charleston, at 10:00 o'clock.

The following were appointed as the Committee on Credentials:

Drs. W. W. Fennell, D. L. Smith, T. H. Symmes.

BY DOCTOR FENNELL: We have twenty-one delegates present who have their credentials.

Doctor Parker then read his Presidential Address, which was as follows:

ADDRESS TO THE HOUSE OF DELE-GATES, GREENWOOD, S. C., 1915.

By Edward F. Parker, President.

I wish to express my appreciation of the honor of being the presiding officer of this House of Delegates, and trust our deliberations will be progressive and harmonious.

Permit me briefly to report some of our activities and their results during the past year, and to call your attention to some conditions to which we may with benefit direct our energies during the coming year. As a profession, we are increasing in influence in public affairs, and deservedly so. My predecessor, Doctor Weston, earnestly urged, and I do so again, the liberal support of the State Board of Health, State Hospital for the Insane, Medical College of the State of South Carolina, the State Board of Medical Examiners, and The Journal of the Association. With the efforts of our Legislative Committee these have received reasonable approtions and support.

In accordance with your instructions, I wrote, through the Secretary, to all candidates for Governor, submitting your recommendations and asking their views. The replies were satisfactory, and I think the method worthy of repeating in future campaigns as a means of furthering the plan of the Association in public health and sanitary matters. I direct your attention to the advertising columns of the newspapers of this State, and especially to religious

papers. These columns have always been, and still are, the greatest enemies of honest medical practice (see exhibit). In this connection, however, I wish to say, that the editorial columns of the same newspapers have always, supported the advancement and improvement of medical education and medical practice, and that we are duly appreciative of this. I will suggest that the Association bring the matter to the attention of each newspaper in the State, requesting their co-operation and calling their attention to the fact that the medical newspapers have already honestly and honorably eliminated all fraudulent and deceptive advertisements in the interests of the public. In this connection, I strongly urge the passage in this State of the law known as the Printers Act law, and which has already passed in the following States: Connecticut, Indiana, Iowa, Maryland, Massachusetts, Minnesota, Michigan, Nebraska, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Washington, Wisconsin, and Louisiana. The law reads as follows:

"Any person, firm, corporation or association, who, with intent to sell, or any wise dispose of merchandise, securities, service, or anything offered by such persons, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce in any manner to enter into any obligation relating thereto, or to require title thereto or an interest therein, makes, publishes, disseminates, circulates, or places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated, or placed before the public in this State, in a newspaper or other publication, or in the form of a book, notice, hand bill, poster bill, circular, pamphlet, or letter, or in any other way, an advertisement of any sort, regarding merchandise, securities, services, or anything so offered to the public, which advertisement contains any assertion, representation or statement of fact which is

untrue, deceptive, or misleading, shall be guilty of a misdemeanor."

I call your attention further to Osteopathy and Optometry as being licensed separately from medicine. If osteopaths and optometrists confine themselves to massage and the fitting of glasses, it is all right, but there is a constant tendency for them to stray into pastures of legitimate medicine, and unless some action is taken it seems to me, that in a short while we will have a number of side doors or short cuts to regular medical practice.

The House is now ready for the transactions of its regular order of business.

BY DOCTOR HINES: I move that a Committee be appointed by the President to consider the recommendations embodied in the President's Address.

Motion carried.

The President appointed on this Committee:

Drs. C. B. Earle, W. W. Fennell, and Wm. Weston.

Doctor Hines here read report of the Secretary-Treasurer, as follows:

REPORT OF THE SECRETARY.

The year 1914 closed with the largest membership in our history-736. This was due to an aggressive campaign for new members extending over several years. Some of the credit belongs for the year 1914 to the organizers of the American Medical Association. This number may represent the limit of our possibilities, though we should be loth to concede such a point so long as a single eligible member remains outside of the ranks of organized medicine. The Association manifested a progressive spirit during the year. There appeared to be an earnest desire to co-operate to this end on the part of almost the entire official staff. The Councilors have generally done most excellent work by personal visits and encouraging correspondence. To the respective Councilors credit is due for organizing the First and Fifth Districts, the Lancaster County Society, all of which will doubtless reach you through their reports. The entire State has now been brought under the influence of organized medicine, with the exception of some very sparsely settled localities. Thus has been consummated the dreams and efforts of years.

Your Secretary was unable to make personal visits to the regular meetings of a

large number of Medical Societies, but has kept in close touch with the profession in the greater portion of the State, losing no opportunity when traveling for any purpose, to look up the individual members and speak to them about our work.

Your Secretary spent part of the summer of 1914 in Europe, studying especially Medical Journalism, Medical Organization, Medical Inspection of Schools and Hospital Organization. The cordial reception accorded him by the officers of the British Medical Association and Journal, the Editor of the London Lancet, and the Chief of the Medical Inspections of Schools Service of London, was indeed very warm, this, too, amidst the turmoil and excitement of the early days of the greatest international conflict in the world's history. It would weary you to go into a detailed description of the trip. Suffice it to say, that the rank and file of the European profession surpasses the rank and file of the American profession in educational attainments. Your Secretary was not impressed with their superiority from an organization standpoint, indeed the reverse would appear to be the case, and the same might be said of the relative status of the leading phases of journalism. That every school child and teacher even in the remotest rural districts of Great Britain, for instance, should have the benefit of medical supervision, and in South Carolina we are just making a real beginning needs no comparative comments.

A matter not entirely germane to the foregoing deserves a place just here in this report. Immediately upon the return of your Secretary from abroad he received a proposition from the Anderson County Hospital, which is controlled by the Anderson County Medical Society, to become the Superintendent of the Institution, with the privilege of moving the Secretary-Editor's office into the building and giving half of his time to the position. greatly enlarged field of work in many of the State Societies has necessitated practically a whole time Secretary or else a combination of his duties with some other department of Association enterprise. To be brief, the above proposition appeared to be in line of further progress for the best interests of the State Association. cordingly the proposition was accepted January 1st, 1915. Theoretically the atmosphere of a large County Medical Society, which meets every two weeks in the

building, the environment of the operating table, the laboratory and the wards of a good general hospital should further vitalize the activities of your Secretary-Editor and he has reason to believe it has done so. Under the great power of the Council on Medical Education of the American Medical Association which has revolutionized the entire medical educational system of America, the next step has been taken recently to turn the light of investigation on our hospitals, hence such an arrangement as the above would appear to be opportune, for the investigation will probably be rigid and nation wide, and most of our Hospitals are controlled, directly or indirectly, by our Medical Societies. A separate report on the latter subject will be presented for your consideration.

Respectfully submitted,

E. A. HINES, Secretary.

\$199.95

REPORT OF THE TREASURER.

The finances of the Association considering the business conditions the South has faced recently are satisfactory. No special effort was made in 1914 to increase our surplus as had been done successfully for some years, but an endeavor on the part of the officers to expend the funds wisely and keep the surplus loaned at a good rate of interest.

The books have been audited as required by the Constitution.

Condensed statement follows of all monies in hands of Treasurer for fiscal year January 1st to December 31st, 1914:

Balance cash on hand January 1, 1914

Cash collected from January 1, 1914, to December 31, 1914 (inclusive as per

TREASURER'S STATEMENT, 1914.

| statement) | 2554.59 |
|---|----------------|
| Total | \$2754.45 |
| Cash expended from January 1, 1914, to December 31, 1914 (inclusive as per | |
| statement) | \$2336.49 |
| Balance cash on hand January 1, 1915 | \$417.96 |
| (The above has been duly audited.) | |
| 1914 Cash Received. | |
| January 1—Balance cash on hand | \$199.95 |
| January 12—Dillon County Medical Society | 6.00 |
| February 3—Transferred from Journal for current expenses | 150.00 |
| February 21—Bamberg County Medical Society | 14.00 |
| Γebruary 28—Bamberg County Medical Society | 8.00 |
| March 5-Williamsburg County Medical Society | 2.00 |
| March 6—Transferred from Journal for current expenses | 100.00 |
| March 6—Bamberg County Medical Society | 2.00 |
| March 9—Barnwell County Medical Society | 18.00 |
| March 9—Georgetown County Medical Society | 14.00 |
| March 16—Lexington County Medical Society | 26.00 42.00 |
| March 16—Pickens County Medical Society | 44.00 |
| March 17—Greenwood County Medical SocietyMarch 18—Dillon County Medical Society | 18.00 |
| March 20—Columbia Medical Society | 140.00 |
| March 23—Orangeburg-Calhoun County Medical Society | 36.00 |
| March 23—Kershaw County Medical Society | 24.00 |
| March 26—York County Medical Society | 38.00 |
| March 31—Marion County Medical Society | 10.00 |
| April 1—Oconee County Medical Society | 22.00 |
| April 1—Oconee County Medical Society | 2.00 |
| April 2—Aiken County Medical Society | 30.00 |
| April 3—Clarendon County Medical Society | 16.00 |
| April 4—Aiken County Medical Society | 2.00 |
| | |

| April 4—Charleston County Medical Society | \$134.00 |
|---|-----------------|
| April 7—Colleton County Medical Society | 18.00 |
| April 7—York County Medical Society | 2.00 |
| April 7—Edgefield County Medical Society | 22.00 |
| April 8—Union County Medical Society | 22.00 |
| April 8—Cherokee County Medical Society | 16.00 |
| April 9—Edgefield County Medical Society | 2.00 |
| April 9-Union County Medical Society | 6.00 |
| April 9—Beaufort County Medical Society | 10.00 |
| April 9—Laurens County Medical Society | 34.00 |
| April 9—Williamsburg County Medical Society | 16.00 |
| April 9—Saluda County Medical Society | 24.00 |
| April 10—Laurens County Medical Society | 4.00 |
| April 10—Anderson County Medical Society | 68.00 |
| April 11—Georgetown County Medical Society | 2.00 |
| April 11—Williamsburg County Medical SocietyApril 14—Laurens County Medical Society | 4.00 2.00 |
| April 14—Laurens County Medical Society | 76.00 |
| April 14—Spartanburg County Medical Society | 38.00 |
| April 16—Union County Medical Society | 2.00 |
| April 17—Abbeville County Medical Society | 26.00 |
| April 17—Abbeville County Medical Society | 48.00 |
| April 18—Laurens County Medical Society | 4.00 |
| April 18—Darlington County Medical Society | 40.00 |
| April 18—Greenville County Medical Society | 96.00 |
| April 18—Sumter County Medical Society | 40.00 |
| April 23—Anderson County Medical Society | 4.00 |
| April 27—Saluda County Medical Society | 2.00 |
| April 27—Florence County Medical Society | 40.00 |
| April 28—Oconee County Medical Society | 4.00 |
| April 29—Dillon County Medical Society | 2.00 |
| April 30—Anderson County Medical Society | 4.00 |
| April 30—Union County Medical Society | 2.00 |
| May 1—Marlboro County Medical Society | 30.09 |
| May 1—York County Medical Society | 2.00 |
| May 1—Newberry County Medical Society | 12.00 |
| May 2—Barnwell-Hampton County Medical Society | 16.00 |
| May 6—Sumter County Medical Society | 2.00 |
| May 7—Spartanburg County Medical Society | 14.00 |
| May 8—Anderson County Medical Society | 2.00 |
| May 11—Lexington County Medical Society | 4.00 |
| May 11—Newberry County Medical Society | 4.00 |
| May 20—Lee County Medical Society | 6.00 |
| May 23—Newberry County Medical Society | 4.00 |
| June 2—Williamsburg County Medical Society | 2.00 |
| June 4—Greenwood County Medical Society | 2.00 |
| June 4—Aiken County Medical Society | 2.00 |
| August 5—Lexington County Medical Society | 4.00 |
| August 6—Spartanburg County Medical Society | 2.00 |
| August 31—Pickens County Medical Society | 2.00 |
| September 9—Georgetown County Medical Society | 2.00 |
| Cctober 2—Anderson County Medical SocietyCctober 2—Transferred from Journal for current expenses | 2.00 |
| Cctober 2—Transferred from Journal for current expenses November 2—Transferred from Journal for current expenses | 150.00 200.00 |
| December 5—Deposit Certificate of Loan with Interest | 512.50 |
| Deposit Certificate of Doalf with Interest. | 012.00 |
| Total | \$2754.45 |
| | |

1914

Cash Expended.

| Jonary 5-E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | |
|---|------------------|
| rapher's salary and stamps | \$114.51 |
| rapher's salary and stamps for mailing out circular letters February 6—Miss Hallie Josey—Stenographic work for President Weston_ March 5—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | 122.51 22.00 |
| rapher's salary and stampsApril 2—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | 114.51 |
| rapher's salary and stamps | 122.51 |
| April 2—Oulla Printing & Binding Co.—Envelopes | 6.45 |
| April 23—The State Co.—Binding Books——————————————————————————————————— | 3.75 23.40 |
| May 4—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenographer's salary and stamps | 139.51 |
| May 14-J. J. Wingard, to correct error in Lexington County Medical So- | |
| June 3—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | 2.00 |
| rapher's salary and stamps | 139.51 |
| June 5—Seneca Bank—Certificate of Loan | 500.00 |
| June 10-Miss Ida Lamb-Reporting Florence meeting, etc | 114.90 |
| July 1—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | 190.51 |
| rapher's salary and stamps | 139.51 139.51 |
| September 2—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | 190.01 |
| rapher's salary and stamps | 139.51 |
| October 1—Franklin Young—A. M. A. Organizer | 11.00 |
| October 1—Dr. L. S. Trusler—A. M. A. Organizer | 3.00 |
| October 1—L. P. Van Duzer—A. M. A. Organizer October 1—C. B. Nelson—A. M. A. Organizer | 4.00 7.00 |
| October 1—F. N. Standgridge—A. M. A. Organizer | 3.00 |
| October 2—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | |
| rapher's salary and stamps | 139.51 |
| October 6—R. L. Bryan Printing Co.—Printing for President Weston———November 5—E. A. Hines, Editor, Secretary and Treasurer's salary, Stenog- | 10.60 |
| rapher's salary and stamps | 139.51 |
| Nevember 10-M. G. Elliott, Councilor | 5.52 |
| November 27—The State Co.—Printing for President Weston | 9.75 |
| Total | \$2226.10 |
| Respectfully submitted, | φ2000.40 |
| E. A. HINES, Treasu | irer. |
| STATEMENT JOURNAL, 1914. | |
| E. A. Hines, M. D., Editor. | |
| Falance cash on hand January 1, 1914 | \$561.14 |
| Cash collected from January 1, 1914, to December 31, 1914 | 3022.21 |
| Total | \$3583.35 |
| Cash expended from January 1, 1914, to December 31, 1914 | 2766.16 |
| Balance cash on hand January 1, 1915 | \$817.19 |
| Certificate of Deposit due May 13, 1915 | |
| - | |
| Total | \$1817.19 |
| (The above has been duly audited.) | |

Cash Received.

| Subscriptions from members | \$726.00 |
|--|-----------------------|
| Subscriptions from non-members | 4.00 |
| I rom Advertisers | 1459.82 |
| From Reprints | 21.97 |
| Interest on \$500.00, at 5 per cent, for six months | 12.50 |
| Interest on \$1000.00, at 5 per cent, for six months | 25.00 |
| Deposit Certificate of Loan with Interest | |
| Deposit Certificate of Loan with Interest | |
| Deposit Octonicate of Boan with Morroscience | |
| Total | \$3022.21 |
| | , |
| Cash Expended. | |
| By Expenses | \$2766.16 |
| Fund For Prosecution of Illegal Practitioners. | |
| Balance of cash on hand January 1, 1914 | _ \$174.77 |
| Interest for twelve months | |
| 1 | |
| | |
| | \$184.60 |
| Cook expended (Fifth District) | \$184.60 |
| Cash expended (Fifth District) | \$184.60 |
| Cash expended (Fifth District)Balance cash on hand January 1, 1915 | \$184.60 25.00 |
| Balance cash on hand January 1, 1915 | \$184.60 25.00 |
| | \$184.60 25.00 |
| Balance cash on hand January 1, 1915 | \$184.60 25.00 |
| Balance cash on hand January 1, 1915 Sims' Memorial Fund. | \$184.60 25.00 |

E. A. HINES, Treasurer.

BY THE PRESIDENT: The Secretary's report is open for discussion.

BY DOCTOR COWARD: I think it is due Doctor Hines that we take some action on his report. It is possible there may be some criticism on his going to the Anderson Hospital. I do not think it should be passed over. His report is painstaking and careful. Doctor Hines is well known, and I wish to express, as a member of the Richland County delegation—and, if not entitled to that, I wish to do it personally—I think he is justified in taking that step. I know that Doctor Hines in the past few years has practically sacrificed his medical practice; that he has devoted himself to going about the country attending various meetings and all that sort of thing, and, in a way, made himself less useful as a general practitioner. I happen to know that he has done that at a personal sacrifice. He was the pioneer in the State of South Carolina on the subject of medical inspection of schools. His work at Seneca has been used as a model for other States, and it is my own personal belief that he is entirely within his rights in going to Anderson and giving what part of his time he sees fit to the Anderson County Hospital.

I do not feel that he is jeopardizing our

Journal or the hospital in doing so, and I think some action, or some motion, at least, should be made after the reading of his report.

I would like for some one else to make a motion, after the reading of his report. That is how I feel about Doctor Hines' action. It will be criticised. We do criticise The Journal. We are here as delegates from our County Societies. Personally, I think The Journal is far from being what it should be. In the last year he has taken steps to remedy that. He has associated with him men of recognized ability who are supposed to contribute literature. He can not be supposed to do all of that. Those men are supposed to help build it up, from a scientific standpoint. He has been forced by rigorous rules of ethical advertising to sacrifice much money that would come to him otherwise, but he has put our Journal on a paying basis. The Journal is criticised. As I say, he has associated men with him, and I think The Journal, from the scientific standpoint, will come up, if it is given time, as it has come up, under his management from the financial standpoint, and I do think that the report he read should receive some recognition.

DOCTOR NEUFFER: I am very glad

Doctor Coward has made the remarks that he has, and I wish to endorse what he has said. I believe, and so do the other members of the Council, that Doctor Hines, by accepting a position with the Anderson Hospital half of his time, will really make us a better editor than if he attempted to do a general practice part of the time and to edit the other part. We know how much one is interrupted by doing general practice and in attempting to write an article. If you get a call you are obliged to go at once. So I really believe that Doctor Hines, in eliminating his general practice altogether and confining himself to hospital work half the time, can give the Association better service.

For that reason the Council last night saw no reason to criticise his action; and speaking for myself and for the rest of the Council, we heartily approve of his action.

BY THE PRESIDENT: The subject is upon Doctor Hines' report. There has been no criticism before the House of Delegates about Doctor Hines.

DR. LABRUCE WARD: I would like to make the motion that the House of Delegates endorse the action that Doctor Hines has taken.

Motion seconded and unanimously carried.

Report of Committee on Health and Public Instruction read.

REPORT OF COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION.

We herewith submit a report of the Committee on Health and Public Instruction for the past year:

You will probably recall that the Association has undertaken definite objects and has instructed this Committee to carry out these objects. In order to facilitate the work and do it more thoroughly certain phases of the work have been delegated to the different members of the Committee. Doctor Tyler has undertaken, with great success, the publishing of articles upon timely topics in the daily, weekly and religious press of the State. These articles have been well written, were simple in style and to the point, and we feel that they are effective.

Doctor Gantt has been in constant touch with such organizations as the South Carolina Federation of Womens Clubs, and through them has been able to accomplish

much good. She has been most active in the organization of Better Babies contests, about fifteen of these contests being held during the last spring, last summer and last autumn, and the probability is that a great many more contests will be held during the year. The contest held at Columbia during the State Fair last autumn was notably successful. At these contests addresses are delivered upon the various dangers that surround children and how they may be avoided. There is also distributed to the parents much literature for their guidance in raising children. As a general thing the physicians have co-operated with her in this work, but we regret to say, however, that there are some exceptions.

Through the efforts of Doctor Gantt a Health Day in the schools has become a part of their routine work and we calculate that between 12,000 and 15,000 school attendants heard addresses on some phase of the public health. In addition to this twenty-six womens clubs observed Health Day for which she arranged programs. She is also arranging a health exhibit at the annual convention of the Federation of Womens' Clubs to be held in Bennettsville during this month.

A need which we are making every effort to meet is the care of the babies and children of the poorer classes in the State, because there is where we are meeting with the highest mortality. The Committee is, therefore, endeavoring to organize childrens clinics for the free treatment of children in the larger cities of the State. There have been organized two clinics in Columbia, which are doing excellent work. The probability is that within the next two or three months there will be organized one in Greenville and one in Spartanburg, with fair prospects of organizing them in some other places. It has been found that by the establishment of these clinics, the study of diseases of children has been greatly stimulated. It is of interest to note that the work of these clinics goes much further than the mere treatment of defects and diseases of children, but does much toward the arousing of interest in the study of children.

It is with pleasure that we can announce that the dentists have shown a splendid effort to co-operate with us in this work, and we feel that in order for this work to be successful we must have their support.

You directed your Committee to do their

utmost toward the upbuilding of the State Hospital for the Insane and put that institution on a modern and scientific basis. We feel that this has been the effort of most of the physicians of the State and we have no reason to believe that much is being done towards this end.

The bill for the medical inspection of school children has passed the House and is on the calendar of the Senate, and will probably become a law during the early part of the coming session.

We respectfully recommend that the work as outlined by previous sessions of

the Association be continued.

Special Recommendations.

1st. That we send Fraternal Delegates to Dental and Druggists' Associations, and that they send delegates to us.

2d. That the legislature be requested to authorize a publicity bureau, in connection with and under the control of the State Board of Health.

3d. That the Commission continue its efforts to familiarize the public with the efforts of the Medical Association.

Respectfully submitted,

WILLIAM WESTON, G. T. TYLER, L. ROSA H. GANTT.

Report received and adopted.

BY DR. GEO. T. TYLER: Mr. President, as a member on the Committee of Health and Public Instruction, I wish to call attention to some effort that has been made in enlisting the support of the teachers in health matters. It is remarkable how heartily they respond when the matter is presented to them in the right way. As the report says, we have had public health days at the schools-the schools at Greenville and Spartanburg; and we have tried to have health days in the county schools, and some of the representatives of those counties are here and can attest to the great success in some of those counties. Of course you could not, with bad conditions of the roads in the winter, have these universally observed, because we depend upon the physicians, and the notice was incomplete. But the effort is most encouraging, and I wish the members to go to their communities and to use their utmost endeavors to organize the teachers in their support.

In Greenville they enlisted the Civic League and installed the tooth-brush brigade in the primary grades and other schools have followed suit.

I wish to speak of a further effort in the beginning of a health Sunday. We began at Greenwood last Sunday and a most cordial response was given by the whites and colored people as well, and Doctor Hayne and myself preached twice on Sunday, and we had responsive audiences, and it seems to have been very well received, indeed.

There is no reason why we could not have State-wide Health Sundays.

DOCTOR COWARD: Mr. President, I presume I have a right to discuss my own motion—that the report be adopted.

It is customary, as Roberts' Rules of Order will say, to move that the report be received. As a matter of fact, a report is received when read. If my motion carries, it means that this Association endorses everything in Doctor Weston's report—and that was the object of my motion. I simply wish to bring up that point. It is received when read. It is adopted when voted. I make the motion to adopt the report, and I stick to that motion.

Motion carried. Report adopted.

Report of State Board of Medical Examiners read by Doctor Boozer, as follows:

REPORT OF BOARD OF STATE MEDI-CAL EXAMINERS OF SOUTH CARO-LINA FOR THE YEAR 1914.

The term of office of Drs. Harry H. Wyman, H. L. Shaw, A. Moultrie Brailsford and A. Earle Boozer expired with the April, 1914, meeting of the South Carolina Medical Association. The House of Delegates proceeded with the nomination of members to fill these vacancies on the Board, with the result that each member was re-elected to succeed himself. All nominations were then confirmed by the Association and the members appointed and commissioned by the Governor to serve their respective terms of office.

The Board met at the State House at 3:00 p. m., June 8, 1914, and November 9, 1914, and registered applicants to practice medicine and for nurses' registration.

At 9:00 p. m. the Board met at the Hotel Jerome with the following members present: Drs. Harry H. Wyman, J. J. Watson, John Lyon, H. L. Shaw, E. W. Pressly, A. Moultrie Brailsford, J. T. Taylor, and A. Earle Boozer. The annual election of officers was held, and the following were elected: President, Dr. Harry H. Wyman;

Secretary-Treasurer, Dr. A. Earle Boozer.

The examination questions proposed by the members were considered and approved, and the following order of examination was adopted: Tuesday, 9-12, Doctor Pressly; 3-6 Doctor Shaw; 8-11, Doctor Watson. Wednesday, 9-12, Doctor Lyon; 3-6, Doctor Taylor; 8-11, Doctor Wyman. Thursday, 9-12, Doctor Brailsford; 12-3, Doctor Boozer.

Applicants for Examination.

| Doctors | June, 84; | Noveml | oer, 36 | 120 |
|---------------|-----------|--------|---------|-----|
| Nurses | June, 28; | Noveml | oer, 39 | 67 |
| | , , | | | |
| Total | l | | | 187 |
| 1000 | | | | 10. |
| | Docto | rs | | |
| White males | (includir | ng one | osteo- | |
| path) | | | | 90 |
| Colored males | | | | 29 |
| White female | | | | |
| path) | | | | 1 |
| • ' | | | | |
| Total_ | | | | 120 |
| | Nurs | es | | |
| | | | | |

White 66 Colored 1 Total 67 Grand Total 187

The Board met at Columbia, S. C., in July and December, 1914, to tabulate the June and November examinations, with the following results:

| White, passed, 60; colored, passed, 11; | |
|---|----|
| total | 71 |
| White, passed, 31; colored, passed, 18; | |
| total | 49 |

The total percentage of failures for the June examination was 39 per cent, of which nearly 50 per cent were old failures, i. e., four had failed once before; five twice before; two four times and three three times. By eliminating all old failures the true percentage of failures for this examination becomes 27 per cent.

The total percentage of failures for the November examinations was 44 per cent, of which nearly 95 per cent were old failures, i. e., five had failed once before; four twice before; two three times; two five times and two six times. By eliminating all old failures the true percentage of failures for this examination becomes nearly 5 per cent.

Nurses.

| | | colored, | 1; | 59 |
|-----|--------|--------------|------|----|
| | | colored, | 0; | อย |
| tot | al | | | 8 |
| | | | | |
| | Total_ | | | 67 |

The percentage of failures for the year 1914 was 11 per cent.

Reciprocity, Duplicate Licenses, Etc.

Besides the licenses issued by examination one was issued through reciprocity: With Maryland.

Six blanks were filled out for reciprocity with other States as follows: North Carolina, four; Kansas, one and California, one.

Four duplicate licenses and one Certificate of Registered Nurse were issued.

We further report that the term of office of Drs. J. T. Taylor, Adams Run; First Congressional District; John Lyon, Greenwood, Third Congressal District; E. W. Pressly, Clover, Fifth Congressional District, and J. J. Watson, Columbia, Seventh Congressional District, expires at this meeting.

Respectfully submitted,

A. EARLE BOOZER, Secretary.

REPORT OF CHAIRMAN OF COUNCILORS—DR. G. A. NEUFFER.

Mr. President and Gentlemen:

The Council begs to report that the conditions of the Association are in a most satisfactory state, as you heard from our Secretary. The membership has been very materially increased the past year, and he hopes, and so does the Council, that we have not reached the high-water mark. There have been no appeals, no contests, during the year. Harmony has seemed to prevail, and the profession, in the way of Association and Society work has been in every way satisfactory.

- You will notice in the report of the Treasurer that whereas some years ago this Association usually had a deficit in the treasury, now we have gotten to be money lenders, and you hear the Secretary read about his time certificate of deposit coming due in May for a thousand dollars, and another one due for five hundred dollars, which I believe has been paid now.

I wish to impress upon you the cause of this is not from increased membership in the Association, and not directly from the Association, but really from The Journal.

Now The Journal has been very much improved, typographically, and with the corps of associate editors it has been improved very much from a scientific standpoint, although I understand it does not yet please every physician in the State. But notwithstanding at the beginning of the year Doctor Hines adopted the policy which was recommended by the American Medical Association, of restricting all advertisements to strictly ethical ones, thereby entailing a financial loss of about \$600, still, our cash balance the first of this January was \$1800.

Now it is the duty of the profession in South Carolina to not let the responsibility for the success of The Journal-either financial or scientific-depend entirely upon the Secretary-Editor, but each member of the State Medical Association should do his part; and there are several ways in which you can do this. One way you can do it is by writing up all unusual cases which occur in your practice. Writing up all cases of emergency, where you have been off in the country by yourself and you have had to extemporize some treatment for the saving of life or for the amelioration of pain, when you had not the time or were not able to get the assistance of a consultant. Many of us, I know, under those conditions frequently find that necessity is the mother of invention, and we find out something that is of value to us and which would be of value to other members of the Association who might, later on, be similarly situated. Write these cases up and send them to the editor. This Journal should be a kind of exchange of views and opinions of the members of the profession of South Carolina. It should be such that every doctor in the State feels not only that he has the privilege, but it is his duty to write up his cases and to write articles for The Journal. We get our A. M. A. and other journals. Let us give our every-day experiences, which, to me, have always been of incalculable benefit and interest.

And the way to assist The Journal is to see to it that the Secretary of your Society every month (and, by the way, you must make your Society meet every month. Some meet once a month and some twice a year), get behind your Secretary and elect such a Secretary as you know will

keep The Journal informed of what takes place at these meetings.

At many of the Society meetings in the different counties, discussions take place and cases are reported which are interesting and which would be of benefit to others if they had the opportunity to read about them. And another way to help your Journal: You can assist The Journal in securing strictly high-class advertising—for instance, hospitals in your town. Suggest to them an advertisement in The Journal always means the keeping in mind by the doctors of the State of these hospitals, and that it is the best way to reach the doctors of the State.

Let's all get to work and make up our minds for the coming year that we are going to do everything we can to improve The Journal, because we have really, I believe, the best Editor of a medical journal to be found anywhere, and then, next year when we meet, we will see if there are any criticisms.

We realize it is not what we want The Journal to be, but we are doing everything we can to improve it, and we want your cooperation and assistance.

There is only one other matter the Council wishes to bring to your attention: The matter of illegal practitioners. There have been during the past year a number of cases reported to the different Councilors and we are endeavoring to handle that matter to the best advantage to the profession. In all cases we act with conservatism. In many cases, if we can see the party and talk to him and show him that he is doing himself an injury and the profession and is not obeying the law, and we can persuade him by a talk to go off to some medical college and prepare himself in some way—such way as he sees fit or is most convenient to him, to stand the Board.

In my county I have a man who was reported by Doctor Boozer, who had not stood the examination. After one or two conferences with him he is now in Charleston taking special studies in the two branches which he had not passed.

In one district we had a prosecution me the circuit court, with a conviction. In other counties we have had injunction proceedings, which have been successful in some instances. In other instances they have not been successful. In another instance a lawyer was employed to help bluff an illegal practitioner.

We want to show you that the Board of Councilors are doing their best to eliminate from the State illegal practitioners.

(Applause.)

DOCTOR COWARD: Mr. Chairman, I hate to talk so much, but there is another report I do not think should pass without some action.

Through the liberality of the State Board of Health (which represents you men, because it is our Medical Association), it has been recently my privilege to visit every County Society in this State. There are forty County and District Societies which I am supposed to visit in thirty days and, at the same time, earn my salary in Columbia. Naturally I do not do either, but that is purely personal. But I have found in visiting these Societies that there are many things that come up and that are discussed among those men that are really of vital importance.

We can meet here and talk big of medical laws and what the ethics should be as to life insurance and so on, but when you get out and meet the men who are doing the work and talk to them (and they are good men. They may write bad letters to the laboratories and send bad specimens.) It has been an education to me.

In regard to illegal practitioners. I have been in four counties in the past month, extending from Williamsburg to Oconee. In every one of these counties are illegal practitioners. At least two of those men were classmates of mine in Charleston. In one county there is a man practicing illegally, whose patients are among the most desirable practice in the community. There are several other good men practicing who are illegal practitioners. The Councilor for our district was present with me, and when they told him to his face, and to my face, "Doctor, you can come down here and try to get an injunction against this The Solicitor of this district will not bring that; you can not get a jury who will convict him; all of us consult with him, and not one of us would be willing to go into the court-house and testify against him. We know, after consultation, that he is not a qualified practitioner, and he says that he has been before the State Board four years in succession and has failed every time and that he will not now be amenable to any law, and that nothing will persuade him to go to Columbia to take the examination, as the Board is composed today." We tried to find out if there was any man on the Board to whom he objected, but they did not tell us, or on what subjects he failed, so that he could go back the next year. I said to them, "You are all young men. If this man is good, as you say, we are better off to have this man with us. Let's send him his papers. If there is one man on the Board at Columbia that he is personally averse to, and he thinks has it in for him-under the rules of examination he is not supposed to know who they are. He is not supposed to know who threw him." This means something. As I say, in every county I have been in, I have met illegal practitioners.

In Oconee were two. They said to me, "Doctor, one of these men is all right. We think he is good and should pass. Through some technicality in Georgia, where he studied, he can not pass our State Board, but he gives chloroform for us and is a bang up good fellow. The other man we are doubtful of." But they are not going to do any thing against either man. What we want to do is to make it so attractive, either by personal talk with those men, and if necessary, coach them, if they want to be coached in laboratory work they can come to Columbia, and, take it from me, they can pass on bacteriology if I have to write the paper for them. If a good man is practicing illegally we are better to have him with us, for, as we saw in Williamsburg, the Solicitor will not prosecute, the Judge will not issue an injunction, and you can not get a jury.

I have other counties to visit, and it has been an education to me. I have not taught anybody anything in any county that I have visited yet, but I have learned a great deal.

Councilor from First District absent. (Report received later by Secretary, as follows:)

Beaufort, S. C., April 16th, 1915.

Dr. E. A. Hines, Secretary, Greenwood, S. C.

Dear Doctor:

I regret that I will be unable to be with you at this meeting, but illness in my household and other reasons prevent me from attending.

Wishing you all a prosperous and pleasant meeting.

Yours very truly,

M. G. ELLIOTT,

Councilor, First District.

Beaufort, S. C., April 16th, 1915. Dr. E. A. Hines, Secretary,

Greenwood, S. C.

Dear Doctor:

I wish to state that since the last meeting of the South Carolina Medical Society, I have, with the assistance of yourself and Dr. E. F. Parker, organized a District Medical Society for the First District, with a fairly good membership. This now completes the last District Society in the State. All other Districts have well organized Societies.

At our last meeting I reported that there was an unlicensed man practicing medicine in this county. I wish to say that this party has gone away, therefore, relieving us of his prosecution.

All County Societies in this District are in a fairly prosperous condition with about the usual membership.

Respectfully,

M. G. ELLIOTT, Councilor, First District.

Report from Second District read by Dr. J. S. Matthews, Councilor.

REPORT OF COUNCILOR—SECOND DISTRICT.

As Councilor of the Second District, I beg to submit the following report for the past year:

The Orangeburg-Calhoun Society being large and not doing the best work possible, I thought it well to organize a Society in each of the counties, this I did with the aid of a goodly number of doctors from the two counties. Both Societies are now doing good work. It has been up to the present impossible for me to put any life into the Barnwell-Hampton Society. They held only one regular meeting during the year that I know of. I shall continue my efforts to get the doctors interested.

During the year I got four doctors in the District who were practicing without license to go before the State Board of Examiners, two got license, two failed. One doctor rather than go before the Board quit the practice.

During the year there were held two District meetings, one in Bamberg, and the other in Orangeburg, both were well attended.

I had the pleasure of visiting once or more each Society in the District.

J. S. MATTHEWS, Councilor, Second District. Report from Third District read by Councilor, Dr. G. A. Neuffer.

REPORT OF COUNCILOR—THIRD DISTRICT.

I herewith submit my report as Councilor for the Third District:

This District is well organized, each of the counties comprising the District, have live active Societies, and the Third District Medical Association is one of the banner District Associations of the State.

During the past year there have been no appeals, no grievances; harmony has prevailed in the profession throughout the District.

There have been several cases of illegal practitioners reported, these cases are being handled by the Board of Councilors.

Respectfully submitted,

G. A. NEUFFER, Councilor, Third District.

Report from Fourth District read by Dr. C. B. Earle.

REPORT OF COUNCILOR—FOURTH DISTRICT,

During the past year I have officially visited each of the component Societies of the Fourth District and find them active, holding regular meetings and doing much to raise the standard of the profession in their various counties.

The attendance at times is very poor and this has been especially true during the winter months, when often the roads were impassable. None have shown any falling off in membership, but have gained during the year.

Anderson has meetings twice a month that are well attended and considerable interest taken in the discussions. The Hospital is used as the place to hold the sessions and clinical material is available to make the meetings attractive. The conditions in Anderson are good.

In Oconee the attendance was very poor during the winter, but as the roads improve doubtless more regular attendance is to be expected. The Society can not grow fast, as all available material is already in.

The same is true of Pickens, all physicians of the county, with few exceptions, being members. The Medical Society is doing good work in keeping down friction between individuals, but can improve in the average attendance of members.

In Greenville meetings are held twice a

month, some being well attended, others not especially by the country practitioners. It seems a difficult proposition to arrange programs so that physicians will be sufficiently interested to attend regularly.

In Spartanburg the County Society meets regularly with good attendance. During the past year the subjects and discussions have been of unusual merit and interest. There has been considerable improvement as to the mutual personal relationship of physicians in the last year.

In Union regular meetings are held with good attendance, the discussions are usually freely entered into.

In November the District Medical Society held its session at Seneca. The attendance was large, subjects well prepared and the discussions were very free. Altogether the most successful meeting since the organization of the Society.

There have been no prosecutions for illegal practice of medicine, but several notices have been sent out with the result of promises to stop until the State Board has been taken.

Respectfully submitted, C. B. EARLE, Councilor, Fourth District.

Report from Fifth District by Councilor, M. J. Walker, as follows:

Our District is well organized. We have no illegal practitioners. One man, who was an illegal practitioner, has been before the Board and has passed; another one has left the county; another one has been convicted.

Lancaster County has now been organized and each county in my District is thoroughly organized. The Fifth District is made up of a better class of men than the rest, and we have a better organization.

(Applause.)

Report from Sixth District read by Dr. W. S. Lynch.

REPORT OF COUNCILOR—SIXTH DISTRICT.

As Councilor for the Sixth District I respectfully submit the following report:
My District comprises the following counties: Chesterfield, Darlington, Florence, Marlboro, Marion, Dillon and Horry.

Every report that came to me I have investigated and made some disposition of same. On February 19th, 1915, I acknowledged receipt of a communication from Doctor Coggeshall, of Darlington, S. C., re-

porting one Mr. Parnell for illegal practice of medicine. I immediately took the matter up with Mr. Parnell and the attorney for the Darlington County Medical Society, and I now hold in my hand a letter from Mr. Parnell which fully explains itself.

On March 3d, 1915, the regular meeting of the Darlington Medical Society was held at the residence of Doctor Hill, at which time I visited the Society and desire to congratulate it on its good appearance and fraternal relation that exists. At this meeting there were twenty-two members present, all active and creating a feeling of good fellowship. All the physicians of this county are members except one. I have not visited the balance of my District but have communicated with the Secretaries, and it gives me pleasure to inform this Association that all the counties in my District have well organized Societies, with the exception of Chesterfield, which has not had a meeting for about two years.

In my home county, Florence, I regret to say we have four illegal practitioners of medicine all of whom defies the law. The Attorney General has refused to grant any injunction, and, on account of the gentlemen in question being of the same political opinion as our former Governor, we thought best to defer action at that time, but now we feel that we can commence criminal proceedings, and will do it in the near future.

All of which is respectfully submitted. W. S. LYNCH, Councilor.

Report by Dr. W. P. Timmerman, of the Eighth District, as follows:

The same enthusiasm does not exist in my District as obtains in some of the others. We are all wrecks financially, and possibly otherwise. We, however, enjoy the distinction of having convicted an illegal practitioner. We still have some prosecutions pending against illegal practitioners, the result of which I can not tell, because, unfortunately, quite a number of the grand jury patronize one of them, and you can draw your own conclusions as to whether anything can be done or not. Take it as a whole, however, harmony prevails among the practitioners of the various counties I represent. I do not know that I have ever seen it quite so harmonious. We have a live District Association, and one which some of our friends sometimes throw off on, and in which Doctor Coward occasionally honors us with his presence. We meet twice a year. The meetings take place and I think the discussions and the papers compare favorably with those presented at our State Medical Association.

We have been deeply grieved by the death of one of our leading men—Dr. T. G. Croft, of Aiken.

Report of Delegate to American Medical Association read, as follows:

REPORT OF DELEGATE TO THE AMERICAN MEDICAL ASSOCIATION.

As your delegate, I attended the meeting of the American Medical Association at Atlantic City, N. J., June 22d to 25th, 1914, under the presidency of that splendid Southern gentleman, Dr. John A. Witherspoon, of Nashville, Tenn.

It will not be necessary to make an extended report, owing to the fact that most of the important doings of the Association have been written up in The Journal immediately following the meeting. Secretary showed that there had been a marked increase in the membership over the preceding year, the number being 41,029. As has been the case for a number of years, the report of the Council on Medical Education was one of the most important and far-reaching. This report showed that the number of medical colleges had been reduced below 100, and that the schools of the Southern States had made better advances than in any other part of the Union. The total number of Southern schools had been reduced to twenty-four, and 50 per cent were in classes "A" and "A"-plus, and that the proprietary feature in medical education had practically disappeared. Seventy-five per cent of these schools required one year of college, in addition to a four-year high school education. The most striking feature of the report was the aggressive action taken by the Council in regard to postgraduate medical instruction, and the probability that in the near future a hospital internship will be required of every graduate. Before the latter can be brought about, however, it was agreed to officially investigate the hospitals of the United States.

The Council on Health and Public Instruction presented an exhaustive report, showing that their progressive public health teachings had permeated the entire

United States, at an annual cost of nearly \$20,000.00. There appeared to your delegate to be a spirit of conservatism coming over the American Medical Association and a desire to limit to some extent the multiplicity of activities, which is no doubt timely. Your delegate was placed on the Committee on Reports of Officers, having been fortunate enough ever since his entrance into the House of Delegates to be appointed on some important committee.

It may be worth while to mention that your delegate has in the past four years been invited to speak on Public Health Sunday in one or more of the churches of the city in which the Association held its meetings.

In 1914 these meetings were held in the City of Philadelphia, rather than Atlantic City, under the auspices of the Philadelphia County Medical Society, thus your delegate has in this manner represented you in various sections of the United States. It will be remembered that three years ago the ratio of members to delegates was raised from 500 to 700, which reduced our delegation to one. This year the apportionment will be made again, and unless the ratio should be again raised we should secure an additional delegate for we reported 736 members.

The apportionment is made every three years. It may not be generally known that the Constitution of the A. M. A. limits the number of delegates constituting the House, hence the necessity for a flexible ratio.

Another Southern born gentleman was elected President, Dr. Wm. L. Rodman, of Philadelphia.

The next meeting will be held in San Francisco, June 21st to 25th, 1915.

Respectfully submitted,

E. A. HINES.

Report of Committee on Necrology read, as follows:

REPORT OF COMMITTEE ON NECROLOGY.

Dr. W. A. Tripp, Chairman.

Charleston County reports no death. Beaufort County reports no death. Lee County reports no death. Spartanburg County reports no death.

Horry County reports the death of Dr. Evan Norton, of Conway. Doctor Norton was born near Mullins, in Marion County, September 9, 1841, and died July 23, 1914.

He served through the Confederate War, soon after the war he entered Washington University, now the College of Physicians and Surgeons, of Baltimore, where he completed his medical course. He located in Conway in 1871, where he practiced his profession up until a few months prior to his death.

Newberry County reports no death.

After writing to the Secretaries of the County Society of the counties printed in the Medical Journal I have the following to report:

Anderson County reports the death of Dr. S. R. Heller, of Townville. Born December 24, 1856, and died June 30th, 1914. He graduated at Charleston Medical College in the class of 1877.

Dr. W. T. Hunt, of Townville, born July 2, 1862, and died December 21st, 1914. He graduated at the Medical College of Augusta in the class of 1888.

Dorchester County reports no death.

Laurens County reports the death of Dr. C. D. East. He was born in Laurens County on October 14, 1853, near Hopewell church and died in Clinton, S. C., September 21st, 1914. During his early manhood days he went West and taught school and read medicine for three years. He then entered the Baltimore College of Physicians and Surgeons, from which he graduated with honors. Returning home and following his profession as long as his health permitted.

Saluda County reports no death.

Dillon County reports no death.

Lexington County reports no death.

Richland County reports the death of Dr. A. B. Knowlton. Doctor Knowlton was born in Brooklyn, N. Y., in 1868, and died in Columbia, July 12, 1914. He was for many years a prominent physician and surgeon of Columbia, and proprietor of the Knowlton Hospital, one of the best in the Southern States. He one time served as president of his County Medical Society.

Dr. M. D. Sullivan, born, 1877. Received his collegiate education at Erskine College. Graduate of Maryland College of Pharmacy. Received his M. D. degree from P. & S., of New York, 1906. Married Miss Elizabeth Ferguson, of Sumter, S. C., June 28, 1911. Died near Pelzer, S. C., March 27, 1915.

Dr. Judson E. Hair, Jr., was born at Blackville, S. C., April 19, 1888. He finished Blackville Graded School in 1904, and attended Furman University, Greenville, S. C., in the winter of 1904 and spring of 1905. Was at the University of South Carolina from 1905 to 1909, and from here he went to the University of Maryland, where he graduated in 1912. He was in hospital for one year and was married November 3, 1912, to Miss Ivy Irene Kennedy, of Frostburg, Md., one child, a girl, being born to them. After his marriage he practiced at Coketon, W. Va., for eight months and Greenville, S. C., seven months. He died on Southern train No. 38 on his return from Tuscon, Ariz., where he spent two months, and was buried at Blackville, S. C., March 27th, 1915. He was a member of a fraternal order.

DOCTOR TRIPP: I wish to say that I wrote a personal letter to every Secretary in the State and have reported every death that I have heard of. Any names that are reported to me, of deaths that have occurred up to the first of this month, will be be included in my report.

Report of Sims' Memorial Committee by Doctor Hines, as follows:

The Committee decided that it would be best not to pursue an aggressive campaign to collect this money until the financial situation cleared up. That is, so far as I know, all the report that we have to make.

Report of Committee to Collect and Preserve the Records, read by Doctor Hines, as follows:

REPORT OF COMMITTEE ON COLLEC-TION AND PRESERVATION OF RECORDS.

At the Charleston meeting of the State Association in 1911, the Chairman of this Committee in his first report as Secretary used the following words: From 1848 to 1869 I fail to find any record whatever. From 1869 to the present time, practically an entire absence of our printed volumes, either annual or our monthly journal. The Association is young as time is reckoned in the history of medicine, barely three score years, yet in this short period, medicine and surgery have advanced more than in all the preceding centuries combined, and many of the members of this Association have won international fame by contributing to this marvelous advancement. I should like to name some of them, but this is not the time or place. I ask you, therefore, in view of these facts, to provide a commission on collection and preservation of records. The President, Dr. J. H. McIntosh, accordingly appointed the following gentlemen: Dr. E. A. Hines, Chairman, Seneca; Drs. Robert Wilson, Jr., and C. P. Aimar, of Charleston. This Committee has labored diligently from that day to this and indeed it has been a labor of love. Four years of persistent search has crowned our efforts, we believe, with success so far as it is possible.

We owe much to a number of loyal members of the Association. Our thanks are especially due to Drs. W. P. Porcher and Edward F. Parker, of Charleston, and Dr. J. W. Jervey, of Greenville. Doctor Porcher gave us the priceless volume which records our organization in 1848, and also records the subsequent meetings to 1854. We are unable to trace any further records until 1869, when the Association was reorganized. It is probably that this period of lapse was due to the disorganization incident to the war between the States. Dr. Edward F. Parker donated a large number of the annual transactions of the early period after the reorganization in 1869. Dr. J. W. Jervey, former Editor, had preserved some of the important issues of The Journal, but it was after years of fruitless inquiry that the Committee accidentally discovered the first three volumes of our Journal in a second-hand book store in New York. The entire ten years of The Journal, therefore, have been collected. All of the records collected have been creditably bound. It is but fair to say that our minutes have been exceedingly well kept and preserved since the reorganization in 1869. There may be outstanding a printed volume of the papers read at the meetings of 1869-70, we have no positve proof of this however.

Members of the House of Delegates: It is with the keenest pleasure that we place in your hands today this great treasure, we ask you to foster the spirit of veneration for the worthy traditions and achievements of the members of the South Carolina Medical Association.

We further request that the Committee be discharged and that the care of the records devolve upon the Secretary of the Association.

> Respectfully submitted, E. A. HINES, Chairman. ROBT. WILSON, JR., C. P. AIMAR.

BY DOCTOR ROSS: I move that the re-

port be received and adopted, and that the Committee be discharged as requested.

DOCTOR TRIPP: I move that we thank Doctor Hines for the tremendous amount of labor that he has done in preserving these volumes.

DOCTOR TIMMERMAN: They might find some other data and I think it would be unwise to discontinue the Committee.

DOCTOR ROSS: From what I can learn from Doctor Hines' report they have done everything available. I have no objection to Doctor Hines continuing on this Committee if he disires to do so, but I think when he has finished his work the Committee should be discharged.

mittee will be discharged.

DOCTOR HINES: Gentlemen, I really prefer that the Committee be discharged. Doctor Ross has expressed my sentiments about the matter. I feel like we have done the best we could and that future work may devolve upon some other Committee.

DOCTOR TIMMERMAN: I move to amend by striking out the suggestion that the Committee be discharged.

The original motion carried, that the Committee be discharged.

Report of Committee on Prevention of Venereal Diseases read, as follows:

DR. MARION WYMAN: I move that the House of Delegates go on record as endorsing the following resolutions in regard to venereal diseases:

REPORT OF COMMITTEE ON VENE-REAL DISEASES.

Be it, Resolved, That the House of Delegates of the South Carolina Medical Association go on record as endorsing the following suggestions offered by the Committee on the Prevention of Venereal Diseases and authorizes this Committee to put this into practice and force, to the best of their ability; to furnish information to the public along lines of Prevention of these secret diseases:

1st. By a campaign of education, by means of talks delivered directly to the male students in the higher institutions of learning, and, when thought advisable and expedient, even in the girls colleges.

2d. That it is the duty of the family physician to instruct parents how to impress the nature and function of the sex organs upon their children and the possi-

ble dangers to be incurred from the abuse of these organs.

3d. By moral talks to patients coming under the observation of the physician, and impressing on them the seriousness of the dieseases, and the importance of a complete cure; thus helping to decrease the spread of this complaint to their future innocent wives; and by any other means that will enilghten the public on the seriousness and offer end results of these venereal complaints.

Doctor Wilson moved that the resolutions be adopted with the exception of the first clause, which was passed by the House.

DR. M. H. WYMAN,

Chairman.

In other words, Mr. President, the Committee just wants the endorsement of the House of Delegates that we engage men at different cities and towns that have colleges for males, and once during the scholastic year give them a talk along these lines. That is the sum and substance. We would like for the House of Delegates to endorse that motion.

Seconded by Doctor Coward.

DOCTOR COWARD: I think it would be advisable for us to take some action. told Doctor Wyman this afternoon that I did not think his report was presented in such form that this body could take action upon it, and advised him to bring it up tonight. Now, we are having syndicate preventive health matters discussed in at least one newspaper in this State that has never, so far as I know, appealed to the public health department of our own State to write that column. They have seen fit to go to Chicago and use two columns of syndicate matter. It is run every day. It is not necessary to call names and name newspapers. Everyone knows to what I refer.

The knowledge of these things is spreading. It is a matter that is difficult to speak of. I happen to know that our Secretary is one of the men who has been brave enough to go to the largest female college in this State and deliver an address on the subject. It is a difficult and a delicate matter, but it is one that I really believe the public today is taking interest in, and if we are not going to tell them we are going to have some one else tell them.

We should go on record at this meeting as endorsing certain measures. Only recently a prominent weekly publication of this country has taken up the matter of

birth control, and is discussing it in the frankest manner possible, and while not intending to be humorous, it is my misfortune to have my sense of humor developed a little at the expense of my other senses. They say in their introduction that a lady who is put down as "Miss" is peculiarly qualified to write upon this subject. However that may be, they are going to take these things away from us, as I said in Richmond, at the meeting of the Southern Medical Association; and we here in South Carolina have the thing in our hands. There are only two States in which the State Medical Association has the absolute control of affairs, and one is South Caro. lina and the other is Alabama. We have it in our hands, and we have either to use our opportunities or we have to do what has happened in the other forty old States, -let it get away from us. We are sent here to represent the State Association, and we should take some action on that Committee and recommend very simple things, perhaps, in the beginning; but it is a matter that, as Doctor Hines has shown, you can go and talk to young girls about, and as Doctor Taylor, of Columbia, has proved, you can certainly go to the universities and talk to the young men about.

I would like to see the report further elaborated, but if it is not, I move that it be adopted and the Committee continued.

It is not a question of a specialist here or there bringing up his practice. Any man who does work of that character, if he makes a success of it, begins to get away from venereal work and takes to major surgery, so to speak. He leaves the snowy fields of the lower genital organs and climbs up to the higher peaks of the kidney. He, therefore, rises to genito-urinary surgery; but we can not neglect such diseases, and I think we should be frank with the public. If we do not do it, some one else is going to, and I think we should adopt the report and let it be published in the newspapers, if necessary, with no doctor's name attached, but as coming from the Society.

DR. S. C. BAKER: There is one feature connected with this subject that I believe we have to come to sooner or later, in the control of this matter, and that is the change in the law in regard to our houses of ill-fame,—the "red light" district, as it is frequently spoken of.

I believe that under the law that any

house of this kind should have a ban placed upon it. The practical result is that to go to any town (I am speaking of my own town, for instance, a year or two ago), these houses were in the corporate limits and were given a certain kind of supervision by the police authorities, and they got in a new set of alderman and they thought it was their duty, under the law, to oust them. So they did. They took up the matter. I went before the council, with another physician, and advocated that they be allowed to stay in the town and that they be given every sort of safeguard thrown around them, because there is always a great deal of liquor kept in these houses for sale; the men go down there and get on tremendous sprees and get into terrible shooting scrapes and such things; and, furthermore, I wanted to have

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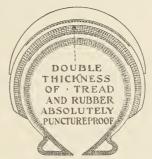
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a medical inspector and otherwise not allow them to ply their trade, and to educate the public along the line for the lack of necessity to visit such places, but if they did visit them, to be sure that they were clean. Of course they laughed me out of court, that it was illegal to have such things, that they could not license such a thing and to get out.

What did they do? Simply moved out the corporate limits, across the street, and set up their houses there, just as many as there were before, and no police control and no police inspection or anything of that kind. Those wise lawmakers think they have cleared their skirts and their consciences, but they have done nothing to benefit the public. Even if they had done

everything they could and driven off these denizens, there are just hundreds of negro women parading the streets and taking their companions into all sorts of dark alleys and such places.

It seems to me that this is a practical way to get at minimizing the danger, and as long as that sort of law is on the statute books which says that you shall not have so and so, and, therefore, think that that means you are not going to have it. We can see that when men do seek after such things as this that they can be as clean as possible for the benefit of the innocent women who will catch the brunt of the trouble afterwards.

(To be continued.)

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MARY E. LAPHAM, M.D. STURTEVANT MACPHERSON, M. D.

The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

Clean Advertising in the Lay Press.

The South Carolina Medical Association has taken an advance position in its determination to make an aggressive campaign against questionable advertising affecting the health of the people. A little over a year ago its own official journal cleaned up its pages from all forms of advertising of this nature. Only remedies which have been passed upon by the Council on Pharmacy and Chemistry of the American Medical Association are accepted. In the presidential address of Dr. Edward F. Parker we find the following:

"The advertising columns of the newspapers, and especially religious

papers, have always been and still are the greatest enemies of honest medical The medical advertisepractice. ments accepted and printed by most of the newspapers in South Carolina are deceptive and fraudulent as far as the public is concerned, and the owners, editors and managers of these, are intelligent enough to know it. Our profession has honorably and honestly eliminated all such advertisements in spite of financial loss. may courteously appeal to the newspapers with benefit, I feel sure, but I earnestly urge the passage of the Printers Act Law, already passed in about sixteen States."

The full text of the law appeared in our May issue and it will be re-

membered, includes fraudulent advertising covering a wide field. The Secretary of the State Medical Association has been instructed to bring the proposition directly to the attention of the lay press. In addition to this, the Committee on Public Policy and Legislation will be repuested to present the matter to the next legislature.

The Cancer Problem.

For five years the Cancer Commission of the Medical Society of the State of Pennsylvania has been working on a proposition to secure a nation-wide publicity on the cancer problem. The Commission has endeavored to secure cancer programs in the month of June in every County Medical Society in the United States and a cancer number for July in all the medical journals of the country. The House of Delegates of the S. C. M. A. at its last meeting endorsed the proposition and notification of the same has been officially transmitted to the County Society officers. We call special attention to this matter in order that our members may be fully apprised of the great importance of the undertaking.

EARLY DIAGNOSIS AND PREVEN-TION OF CANCER.

Possibly no disease has received the undivided attention of so many earnest and competent workers as has concer. A review of the literature on this subject will reveal the names of some of the master minds in medicine, minds that have attacked the problem, grappled with it, accumulated interesting and important facts that may ultimately find their explanation in the work of others, but finally have yielded

up the struggle with little more of an end result than the evolution of a theory, or the frank acknowledgement of a failure to find the cause of this elusive malady. From this vast maze of work we emerge today with the realization that the etiology of human cancer is beyond our ken, that consequently preventive medicine is to a large extent denied its application, and that clinical medicine must rely in the main upon early diagnosis, and the complete eradication of an incipient disease.

Among the factors that have been suggested as playing a part in the production of neoplastic growths may be mentioned:

- 1. Heredity.—Though much has been written upon the relationship of heredity to cancer, and many suggestive instances of the occurrence of the disease in several members of a family have been cited, the evidence is insugficient to allow of definite conclusions. Certainly striking coincidences do occur, so strikingly at times as to be almost convincing, and the inheritance of a "constitutional predisposition" is recognized by many able workers. In this connection Warthin cites several families that exhibit a marked heredity tendency to cancer. His charts show the incidence of the disease in these groups to follow closely the Mendelian law of heredity. He finds that the susceptibility to cancer is much more marked in the children when both of the parents have suffered from the disease, and notes that the disease appears earlier in life in such offspring, and seems to be of increased malignancy.
- 2. The Theory of Cell Autonomy.

 —This idea which was first systematically promulgated by Conheim is too well known to permit of more than passing comment. Suffice it to say that it goes far toward the explana-

tion of the pathology of malignant disease, but falls short from the etiologic standpoint. As pointed out by Ewing (2) the glaring deficiencies in this theory lay in the assumption of the existence of embryonal cells without their demonstration and failed to explain why such cells should suddenly take on neoplastic tendencies.

- 3. The Parasitic Theory.—The study of cancer among certain of the lower animals has led to the suggestion that the disease may be of infectious origin. With the exception of an epidemic thyroid cancer that has been observed among salmon, it may be said that evidence of this kind will not stand the test of analysis. But the idea has been developed in full by research workers and organisms of almost every type have been listed from time to time as "cancer parasites." The organism groups listed by Ewing in this connection are:
 - a. Bacteria.
 - b. Coccidia.
 - c. Sporozoa.
 - d. Blastomycetes.
 - e. Mycetozoa.
 - f. Spirochaetae.

Needless to say, the claims of these animal parasites have been found to rest upon insufficient grounds, and the temporary significance gained by each has gradually dwindled. Of far more significance in this connection is the recent work of Rous (3), of the Rockefeller Institute, who has succeeded in demonstrating a filterable virus as the causative agent of a type of malignant growth in chickens. The possibilities suggested by this work loom big in the field of cancer research today, and it is not too much to hope for valuable information concerning the etiology and principles of immunity incident to new growths.

Another line of research that is pregnant with possibilities in its rela-

tion to the cancer problem is that initiated by Carel in the artificial cultivation of fibrous tissue. Uhlenmuth (6) has recently reported the successful cultivation of the skin epithelium of the frog. By such means we may ultimately gain a first-hand knowledge of the habits of growth and the conditions modifying various types of tumors.

In the absence of more definite etiological information, clinical workers have ever been hopeful of aids to the diagnosis of cancer, realizing that every malignant growth is at some time in such a stage that its complete removal can be accomplished and metastases prevented. The customary symptoms and physical signs of these conditions are well recognized, but of equal certainty is the realization that their appearance is too often synonymous with fatality. It is of interest to review briefly some of the chemical and biological tests that have been suggested in the hope of making an earlier diagnosis possible.

Skin Reaction.—More or less empiracally the haemolysis of human red blood corpuscles by a cancer host was suggested as a diagnostic aid. Lisser and Bloomfield (7) have given this method a thorough trial, adopting a more exact modification of the original technique. This modification consisted in the use of none other than those corpuscles of Moss's fourth group (i. e., those corpuscles that were neither agglutinated nor haemolyzed by the sera of groups L, LL, or III.) One-third to one-half cc of a 20 per cent suspension of these corpuscles is injected subcutaneously. A positive reaction appears in from 3 to 5 hours as an elevated area of induration with discoloration dependent upon haemolysis. They conclude that a negative reaction is of little or no value in excluding cancer, but feel that a positive

reaction is strong presumptive evidence of the existence of the disease.

- 2. Meiostagmin and Epiphanin Reactions.—In his studies of this test Burmeister (8) concludes that the meiostagmin reaction, or Ascoli's test, has a greater negative than a positive value. He finds that a positive reaction is in no sense specific. The epiphanin reaction he considers valueless as an aid to the diagnosis of cancer.
- 3. The Salmon-Saxl Test.—This empiracal urinary test is "too good to be true." It is a urinary reaction based upon the assumption that in cancer patients there is a sulphur body in the urine which does not yield inorganic sulphur upon treatment with dilute hydrochloric acid, but which upon subsequent treatment with hydrogen peroxide is oxydized with the liberation of inorganic sulphate. The originators of this test report 70 per cent positive reactions in carcinoma cases. But we are disappointed to find that other workers, e. g., Greenwald (9), find the test of no value.
- 4. The Glycl-Tryptophan Test.—In view of the known proteolytic enzyme content of malignant tumors, the announcement of the test for gastric carcinoma was looked upon with much favor. Weinstein (10) enthusiastcally announced for it. But it was soon found that the gastric washings of perfectly normal stomachs contained an enzyme that could readily break down this bipeptid into its constitutent parts, and another hope was dispelled.
- 5. Abderhalden's Test.—Since the announcement of Abderhalden's specific ferment test for pregnancy there is scarcely a body protein that has not been declared as capable of generating or exciting its specific ferment when foreignly introduced into the host. Some observers have gone so far as to

- state that the reaction can specifically differentiate between diseases of the stomach, the duodenum, different parts of the small intestine and the large bowel, simply through testing the ferment action of the patient's blood upon these tissues. The technical difficulties of this test are great, and the discrepancy in results may be explained to some extent upon this basis. This is suggested by Brofenbrenner (11), who believes in specificity of the reaction of test after careful trial. But bling, Eggstein, and Petersen state that theoretically the principles enunciated for the test are out of accord with the recognized laws of ferment action. They also point out that there is a normal protease content of serum that automatically robs the test of specificity. In their application of the reaction to cancer tuberculosis and pregnancy they find that no specific action is obtained. Whatever the future may demonstrate of value in the Abderhalden test as applied to the diagnosis of cancer, the present leaves us in disappointment.
- The Incoagulable Nitrogen in Puncture Fluids.—The basic principles involved in the glvcl-tryptophan test for gastric carcinoma have been applied in the differentiation of effusions from serous surfaces as dependent upon malignant or non-malignant disease. The proteolytic activity of malignant growths should theoretically yield a higher percentage of those simple nitrogen-containing bodies that are incoagulable than would be found in other conditions. With this idea in view, Morriss (13) has reported a small series of cases, and tentatively advances the following suggestions: On the basis of the incoagulable nitrogen content, puncture fluids may be divided into three groups:
 - I. Incoagulable N. 0.0699 gm. per

cent or less. Probably not malignant.

- II. Incoagulable N. 0.07 to 0.0899 per cent. Strongly suspicious.
- III. Incoagulable N. 0.09 to 0.1 or more. Great probability.

Here again we may see signs of hope, but the evidence is not sufficiently extensive to allow of great dependence upon this aid at the present time.

After this rather pessimistic review of the clinical applicability of the greater part of recent investigations into the subject of malignant neoplasm, one may well ask, "in where has progress been made?" The answer is that we, as clinicians, have gained but little as a direct result. But these workers have played a great part in stirring up the profession, and the laity as well, to a realization of the importance of early diagnosis. Again, the doctrine of "precancerous lesions," the settled belief that all types of carcinoma exist at some time in a potential stage, and that the recognition and prompt removal of these potentially malignant growths will effectively prevent the development of a cancer, has stimulated the profession to increased assiduity in searching for

such lesions and has made them more careful in the observation of warts, moles, keratoses, and sites of chronic irritation or inflammation. Doctor Bloodgood (14) has been a prominent advocate of this idea, and has been largely instrumental in its propagation. Another opinion that we may look upon as established is that chronic irritation (mechanical, chemical, physical, or infectious), bears a definite relationship to tumor growth.

In conclusion, we may say that in our clinical fight against cancer we must rely upon two defenses:

- 1. As early diagnosis as possible. This can be greatly furthered by educational campaigns among the public, persuading them to make suspicion the grounds for medical consultation in such matters, and urging them to give the surgeon the responsibility of deciding as to the potential malignancy of any lesion. In this phase of the subject we must keep constantly before us "precancerous lesions" and chronic irritations.
- 2. Radical Treatment.—The technical delimitation of this term must remain with the surgeons and must be based upon surgical experience.

ORIGINAL ARTICLES

THE DIET IN TYPHOID FEVER.

*By John R. Murlin, Ph. D., U. S. Public Health Service, Pellagra Hospital, Spartanburg, S. C.

T IS well known to all those present that within the past few years the conviction has been growing in the minds of eminent physicians that

*Read before the Spartanburg County Medical Society, April 30, 1915. the typhoid fever patient should be nourished as completely as possible throughout the course of the disease. It may not be quite so well known that this opinion has received its most important support, so far as this country is concerned, from an investigation into the metabolism in typhoid conducted by Shaffer¹, as laboratory director, and Coleman², as clinician, in Cornell Medical College, beginning in 1907, and continuing under Coleman

to the present time. The only qualification to speak upon this topic, which the present writer can claim (aside from a knowledge of the principles of nutrition involved), is the fact that he has been in close touch with this very important work from its inception, and can vouch for the accuracy of the scientific data presented by the authors. The brief discussion which follows will deal chiefly with the principles upon which a rational dietary in typhoid must be worked out.

The Sparing Effect of Foods.

About 1842 Liebig, the great German chemist, to whom we are indebted for the general classification of foodstuff into protein, carbohydrate, and fat, suggested to Carl Voit, at that time his pupil, that since nitrogen is the most characteristic element in proteins, and since proteins make up the bulk of the active tissues of the body. the excretion of nitrogen in the urine might be used as an index of the breakdown of tissue in the body. While Bidder and Schmidt published the first demonstration of this fact, it was left for Voit in the most fruitful years of his life, 1855 to 1870, to lay down the fundamental principles of protein metabolism from the knowledge gained by analysis of the urine and feces. Voit found among other things that the body could maintain an equilibrium of its protein materials at various levels, that is, it could and did excrete by way of the kidneys and intestines just as much nitrogen in the course of twenty-four hours, as it took in as protein food, whether the food were rich in protein or poor in protein. He observed also that nitrogen continues to be excreted when no food is given, showing that the body lives in starvation at the expense of its own protein materials. Another very significant observation in this early period was that when non-nitrogenous food, such as pure starch or pure lard, is given alone less nitrogen is excreted than in total starvation. The food contained no nitrogen and yet it spared the body protein. Carbohydrate, it was afterward found, can spare the body protein much more than fat.

Since Voit's time much more knowledge has been gained regarding the effect of carbohydrate (starches and sugars) on protein metabolism. Landergren3, for example, was able to reduce the output of nitrogen to onethird the starvation level by giving a large excess of carbohydrates to a healthy man. This amount, one-third the amount lost in starvation, is now regarded as the irreducible minimum of supply at which nitrogen equilibrium can be maintained. For a man of average weight it amounts to about 3.5 grams of nitrogen, or 20 grams protein—the amount contained in five eggs, or a pint and a half of milk. Rubner calls this minimal excretion of nitrogen the "wear and tear quota." Theoretically, then, a man can be kept in an equilibrium of body protein on this amount, provided he is getting at the same time a large amount of carbohydrate. The writer has shown4 that the amount of protein necessary to make good the wear and tear quota is smaller the lower the subject has fallen in his general protein condition -a fact which explains the ease with which protein materials are retained in convalescence from a wasting disease like typhoid.

Compare with these conditions which obtain in health the protein metabolism of a typhoid patient. Coleman and Shaffer were confronted with this problem. How much protein is necessary to keep the typhoid patient from losing tissue substance; and is the sparing effect of carbohy-

drate as great in such a wasting fever as it is in health? They reasoned correctly that if nitrogen equilibrium could be maintained, a typhoid subject should withstand the disease much better than when he is constantly losing the most precious substance for the maintenance of life. Protein, it may be remarked parenthetically, represents the one class of substances inseparably associated with life in all its phases.

To make a long story short, for their observations covered a long period of time, and a large number of patients, Shaffer and Coleman reached the conclusion that a typhoid patient can be maintained in protein equilibrium practically throughout the course of the disease. They recognized clearly, however, that this could not be accomplished on the low amounts of protein mentioned above as a bare sufficiency for a healthy man—not even when the amount of carbohydrate given with it was the highest amount a patient could take. This is a significant fact, and one which must be borne in mind in the dietary treatment of any wasting disease; for it means that in addition to the normal wear and tear quota there is a "toxic destruction" of tissue protein. They found, however, that even this toxic destruction could be completely covered by the sparing effect of carbohydrate, together with a large amount of protein. Kocher, working in Muller's clinic in Munich, has published results within the past two years which are not wholly in agreement with Shaffer and Coleman's results; but his method is open to objection and his findings must not be looked upon as a disparagement of the abundant feeding of typhoid.

The Energy Metabolism.

Let us turn now to another and in

some respects a more important aspect of metabolism; namely, the body's requirement for energy. The German distinguish clearly between substance metabolism **Stoffwechsel** and energy metabolism or **Kraftswechsel**. In this country the use of the English equivalents of these words should be encouraged for they emphasize the two main requirements of the body for organic materials.

A physician needs no reminder of the wonderful phenomenon (wonderful, I mean, when we stop to think about it) presented by the constancy of the body's temperature in health. So useful is this criterion of health that when a few weeks ago the writer was prostrated for a day or two from the effects of Grippe, the physician who was called in to see him lost all interest the moment he read his thermometer and found the temperature normal. You have all called many a bluff worse than mine was by the use of your thermometer. Consider for a moment what this nice regulation of the body temperature requires in the way of heat. Except in the warmest days of summer the temperature of the air medium in which we live is always several degrees lower than that of the body itself. The body is constantly losing heat to the air. To maintain a temperature of 98 degrees F., therefore, requires constantly a production of heat by oxidation in the tissues. It has been estimated that to furnish this heat alone without loss of body substance would demand an ingestion of food equal to at least one-half of the average daily intake, the year around. Merely to keep alive, therefore, like the proverbial Georgia Cracker, requires, strange as it may seem, some expenditure of energy.

Before going further it is necessary to introduce here the unit of energy which is employed now by physiologists and which is gradually finding its way into all the clinical books and literature. Since all of the body's energy sooner or later takes the form of heat, it is customary to measure the requirements in heat units or calories. A calory is the amount of heat necessary to raise one kilo of water from 0 degree to 1 degree C. A gram of pure sugar, for example (which would just about balance a bone collar button) vields, when completely burned, almost exactly four calories of heat. A large teaspoonful of sugar will yield 100 calories, whether burned in the body or burned outside. A gram of pure fat, such as olive oil or pure butter fat will yield about nine calories, and the ordinary little pat of butter weighing half an ounce will yield 100 calories. Protein materials also yield heat to the body—gram for gram, about the same as starches and sugars. but this is not their chief function in the food. You eat lean meat not primarily for the purpose of supplying heat to the body, but for the purpose of supplying building material with which to replace tissue waste. same may be said for other proteins, such as the casein of milk, albumin of egg, gluten of bread, etc. Curiously enough, however, these very foods, while they do not yield so much heat to the body as fat, have the capacity of stimulating the production of heat more than any other foods. stimulating effect of meat everybody has experienced; for we naturally crave meat in cold weather, and avoid it in hot weather for this very reason. Next to proteins the fats will stimulate the energy metabolism, and least of all, the carbohydrates.

If we think of foods for the moment then merely as fuel for the body furnaces, and remember that proteins (meat, eggs, milk, gelatin, etc.), like wood, can be used for fuel in the house, as well as for building material in its construction, while fats and carbohydrates are for the body what coal is for the house; that is, useful only as fuel, we see clearly that in order to know how much food should be put in you have only to know the needs in terms of heat units and you can make the calculations for your body as easily as you can estimate your requirements of lumber and fuel for your house.

The minimal requirements for energy occur during quiet sleep, when, it has been found, the expenditure amounts to about 24 calories per kilo of body weight, or about 10 calories per pound. At this rate a person is expending just enough to maintain body temperature, with the help, of course, of some covering to prevent too rapid a loss. This requirement, plus a few extra calories for movements about in bed describes the needs of the average bedridden patient devoid of fever. When a person gets up out of bed and eats a substantial meal his expenditure of energy increases. because of the stimulating effect of food just mentioned. If he then goes out into the cold, he experiences a second stimulus; for now he is losing heat more rapidly than in the warm house, and thirdly, if he engages in muscular exercise of any sort, once more the fires are quickened. three agents, food, cold, and work, are the determining factors which must be taken into account in figuring a healthy man's energy requirement in the form of food.

The Energy Requirement in Typhoid.

Let us now see how the requirements are modified by a disease such as typhoid. First of all your patient is bedridden, i. e., he is doing no muscular work except when restless or delirious; he requires no food for

keeping him warm while the fever lasts, at least, and it has been found recently, the food does not quicken his metabolism during the fever. one factor which raises his expenditure of energy above the minimal for the same person in health is the fever itself. Coleman and DuBois⁵, in studies made by means of a calorimeter large enough for a man, have shown recently at Bellevue Hospital, that the metabolism in typhoid at the height of the fever is increased above the normal, about 40 per cent. A man who, while normal, would produce lying quietly, but awake, in bed, say, 30 calories per kilo, or 14 calories per pound of net body weight, would at the height of his fever produce 42 calories per kilo, or 20 calories per pound. This means, gentlemen, that if you are to prevent loss of fat in your patient he must take in and assimilate 40 per cent more food than he would require at rest while in good health. As a matter of fact, to prevent loss of weight requires even more than this; for there is loss of water from the tissues as well as of fat. This equilibrium of energy, together with equilibrium of protein, is the ideal of perfect nutrition to be aimed at all times.

Can the typhoid patient utilize, this quantity of food and can loss of weight be prevented? We have grown so accustomed to think of typhoid as necessarily a wasting disease that to describe a case as having come through fever and a quick convalescence without loss of weight, or nearly so, would at once create a doubt as to diagnosis in the mind of the average practitioner, and yet this is what the so-called "high-calory diet" of Coleman has accomplished. In many other cases, in fact in most of the several hundred cases which by now have been treated in this way at Bellevue, the loss in weight during the febrile period has been very much diminished, the convalescence has been very materially shortened, and the patient's weight often has been restored to normal before he was out of bed.

To quote Coleman's own statistics up to 1912, which are the latest available to me at present, the mortality of cases on high-calory feeding was 10 per cent, as compared with 16 per cent in the same hospital for the same time on the ordinary milk-diet treatment. For relapses the percentage for the same period was 20 per cent on high-calory feeding, as compared with 26 per cent on the usual milk diet. Coleman gives twelve instances out of his 111 cases which had hemorrhages on the high-calory diet.

Commenting on the general course of the disease Coleman says:6 "There is no reason to think that the highcalory diet has had any influence upon the febrile stage of the disease, but there is strong evidence that it modifies the course of the disease favorably. Though, perhaps, the majority of the patients on the diet lose some flesh, the marked emaciation formerly so characteristic does not occur. Mentally they are alert and take an active interest in their environments. The so-called "typhoid state" has not developed in any patient who has been able to take sufficient food. I doubt if any physician glancing casually about the wards would be able to pick out the typhoid fever patients."

Now an emphatic word of warning must be uttered before proceeding to the description of the diets which are suitable in typhoid. Not all patients can take food enough to prevent loss of fat, meaning by that up to, say, 20 to 30 calories per pound of net body weight, and not all patients can take the same kind of food, and finally no patient should be made to take more than he can digest properly. However, sev-

eral devices can be employed to induce him to take what he thinks of as a drink, but which in reality is good substantial food. A favorite one with Coleman is lemonade, sweetened with milk sugar, all that the water will dissolve. Any other fruit juice could be similarly employed. Ice cream, light puddings of various sorts and flavored in various ways will often beguile the patient into taking what he thinks of as food accessories rather than food itself.

To speak briefly of the materials suitable for the typhoid patient, the following may be mentioned as sources of protein: Milk (par excellence), eggs, gelatin, toasted bread, light crackers, which can be softened in the milk or cream, in tea or chocolate, creamed chicken, very tender, and gruels of oatmeal, cream of wheat, or other suitable cereal. As sources of fat: Cream, butter, yolk of egg, olive

oil, high-grade salad oil, peanut oil, the fat of chicken or other poultry, of pork and of game of any kind used in making gravies and dressings. sources of carbohydrates: the best probably is milk sugar, then comes starchy puddings, such as rice, tapioca, corn starch, arrow root, then mashed potatoes, white or sweet, then the soft pulps (without fiber) of fruits, such as apple sauce, the starch of cereals already mentioned, etc. Coarse foods, meats, excepts as mentioned above, and anything which would irritate or aggravate the bowel should obviously be avoided.

The preparation of the food is an important matter and should be in the hands of a good and responsible cook, but should be under the supervision of the physician himself. The following is offered as an example of Coleman's daily routine:

| | Total | Calories |
|--|-----------|----------|
| Milk, 6 ounces, at 9 A. M.; 1, 3, 7 P. M | 1260 cc. | 860 |
| Cream, 2 ounces, at 10 A. M.; 1, 4 P. M | 420 cc. | 840 |
| Lactose, 10 grams with each glass | 70 grams. | 280 |
| | | |
| | | 1980 |

780

640

| At 11:00 A. M. | Calories |
|----------------------------|----------|
| Egg, 1 | 80 |
| Mashed Potato, 20 grams | 20 |
| Custard, 4 ounces | 250 |
| Toast (or bread) 1 slice | 80 |
| Butter, 20 grams | 150 |
| Coffee and Cream, 2 ounces | _ 120 |
| Lactose, 20 grams | 80 |
| | |

| at 5:00 P. M.: | Calories |
|-----------------------|----------|
| Egg, 1 | 80 |
| Cereal, 3 tablespoons | _ 150 |
| Cream, 2 ounces | |
| Apple Sauce, 1 ounce | |
| Tea | |
| Cream, 3 ounces | _ 180 |
| | |

| At 7:00 A. M.: | Calories |
|-------------------|----------|
| Egg, 1 | 80 |
| Toast, 1 slice | 80 |
| Butter, 20 grams | 150 |
| Coffee | |
| Cream, 2 ounces | |
| Lactose, 20 grams | |
| | |
| | 510 |

Milk sugar lemonade may be substituted for the milk mixture at 3:00 o'clock.

A word more as to the general applicability of the high-calory diet and I must leave the subject with you for further study in the papers of Coleman and his colleagues. Many men in the larger hospitals all over the country are now using the diet. It has found its way into many text books

and diet books for nurses. Coleman and others are now convinced that the handling of typhoid by the general practitioner as well as in the large hospitals is greatly improved by following this diet. The rational procedure is to endeavor to combat loss of body protein by an abundant supply of a variety of protein materials, while, at the same time, sparing body protein and covering the entire energy requirements by giving plenty of light carbohydrates and fatty foods, but limiting the intake always to the amount actually digested and utilized properly.

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NITROUS OXID AS AN ANAES-THETIC.

*By Dr. Archibald E. Baker, M. D., Charleston, S. C.

We use the control of the state of anaesthesia is at present unknown, however, nitrous oxid gas approaches the requirements of an ideal anaesthetic. The physical properties of this agent are such that in producing anaesthesia it gives rise to less interference with the normal function than any other anaesthetic agent.

One of the most important improvements in the method of administration of nitrous oxid is the combination with oxygen. Pure nitrous oxid with oxygen, when properly administered, is the safest, the most agreeable, and the freest from the post-anaesthetic complications of the general anaesthetic agents now employed. It is to be regretted, however, that it is most difficult to administer properly. Because the physical properties of nitrous oxid are such that this gas must be given from 80 to 90 per cent pure, in order that tension of gas in the blood may be sufficient to produce the physicochemical change in the nerve cells, which brings about the anaesthetic state (Teter). On account of this fact one is constantly confronted with the problem of asphyxia, which is practically the only danger of the gas-oxy-

^{*}Read before the South Carolina Medical Association, in Simposium on Anaesthetics, April 22, 1915, Greenwood, S. C.

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gen anaesthesia. And again the anaesthetic properties of nitrous oxid are extremely evanescent. The patient can pass from profound anaesthesia to the conscious state within sixty seconds. The extreme rapidity of induction and elimination renders its administration very difficult.

In consequence of these peculiar properties it is necessary to utilize every known scientific principle that will enhance its efficiency in order to make nitrous oxid practicable as an anaesthetic agent. The following principles have proven of value in the administration of nitrous oxid—viz: The administration of pre-anaesthetic narcotics; the use of pure oxygen; the maintenance of definite and even flow of both gases to make possible safe and constant anaesthesia, and the rebreathing of the gases.

The advisability of giving pre-anaesthetic narcotics is now generally recognized by the profession. It is essential if nitrous oxid is the anaesthetic employed for reasons that the patient comes into the operating room composed and not nervous or frightened—that the induction period is shortened—that profound anaesthesia is obtained with greater relaxation—that hyper-secretion of mucus is prevented and shock to some extent is obviated.

None of the narcotics used may be considered ideal: those most generally employed are Morphine Gr., 1-6 to ½ with atropin Gr., 1-150 to 1-100—administered hypodermically, half an hour before the operation: or Morphine ½ to 1-6 and Scopolamin 1-150 two hours before the operation. The first combination is in more general use, is probably safer than the second, which should be used with caution and in selected cases.

In the use of pure Oxygen, it has been stated that it is necessary to administer Nitrous Oxid from 80 to 90 per cent pure in order that the blood may become sufficiently saturated to produce the anaesthetic state. If less than 11 per cent of oxygen is used with nitrous oxid more or less cyanosis will be manifested. A slight degree of cyanosis is the rule with this form of anaesthesia unless a large dose of some pre-anaesthetic narcotic has been given.

Marked cyanosis is the first and most reliable danger signal—discontinue the nitrous oxid and turn on pure oxygen, and almost instantly will this danger signal disappear. It has been truthfully remarked that no individual can be starved so long as sufficient food is allowed to sustain life: and equally it is true that no individual can be killed with nitrous oxid gas, provided, sufficient oxygen be permitted to maintain life.

We believe that properly administered by a competent and capable anaesthetist familiar with its effect, nitrous oxid is the safest of all anaesthetics for inhalation, but when improperly given or in the hands of the inexperienced in its administration it is the most dangerous. An expert can prolong gas oxygen anaesthesia indefinitely without serious danger to the patients. If, however, an insufficient amount of oxygen be allowed death ensues quickly, due to diminished carbondioxide in the blood. It is, therefore, essential that there shall always be the proper admixture of oxygen, and this being assured, gas oxygen in competent hands, is the safest known anaesthetic. Only an expert should be permitted to administer anaesthetics under any circumstance, and no one can be legitimately considered expert, unless he or she has had abundant opportunity to gain experience in this special branch of medical science.

Muscular rigidity and cyanosis are evidences of improper administration: with the requisite admixture of oxygen the skin remains normal in color. There is absence of post-anaesthetic disturbances, such as retching, vomiting, intense thirst, and the fearful expression of anxiety commonly observed under the older anaesthetic methods.

To quote Crile, "Abdominal operations in which the damaging nerve impulses in the deeper parts cannot be blocked by local anaesthesia, nitrous oxid anaesthesia as compared with ether anaesthesia confers a higher degree of immunity to shock. Under nitrous oxid a patient will endure approximately four times the amount of operative trauma as under ether, and, in addition the patient will go to sleep pleasantly instead of under stress, there will be little or no post-operative nausea, such as follows the use of ether or chloroform: there will be an immediate complete awakening from anaesthesia instead of ether or chloroform intoxication. In what manner does nitrous oxid protect the brain cells more than ether? It must be remembered that nitrous oxid produces anaesthesia by the prevention of the use of oxygen by the brain cells. The chemical response of the brain cells is, of course, only possible in the presence of oxygen, therefore, in nitrous oxid anaesthesia, there being a large deduction in the amount of oxygen available, the substance of the brain cells is prevented from being so rapidly used up for want of oxygen."

This clearly explains why nitrous oxid when used as an anaesthetic does not produce physical changes in the brain cells as ether and chloroform do. Therefore, the gas oxygen does not favor but rather immunes from surgical shock, whereas, the other anaesthetics mentioned, cripple the brain

cells, and favor surgical shock. But we must acknowledge that ether anaesthesia has certain advantages. It is relatively safe in inexperienced hands: its bulk is small: it is inexpensive, and it requires the simplest apparatus for administration. Against ether stand these disadvantages: the choking sensation in going under its influence: the drunken nausea sensation when becoming conscious again, and the fact that the dose required to dissolve the lipoid in the brain sufficiently to cause anaesthesia, also dissolves the lipoid in the liver, kidney, red blood corpuscles and other important structures. Ether also chemically hinders or prevents phagocytosis (Crile). The work of Graham, of Chicago, on the phagocytes showed that ether distinctly lowered the phagocytic power, because "Ether anaesthetizes the phagocytes as well as the The patient is in the position of a citadel when at the hour of assault by the enemy, the defenders are drunk in the trenches." Therefore, if infection exists ether arrays itself on the side of infection against the patient. "By the use of nitrous oxid the phagocytic defenders are ready for action and the danger of infection is, therefore, lessened." (Crile.)

The use of nitrous oxid and oxygen in obstetrical cases is gaining in favor. The scientific progress of medicine and surgery, and the adopting of painless methods in all phases possible, have been but recently practicably applied in obstetrics. For centuries there have been many experiments but without discovering any method that would prove safe for both mother and child, and at the same time not retard labor. Teter states that his experience in this line of work with nitrous oxid and oxygen has been most gratifying. He is convinced that this method or in a modified form, has distinct advantages over the morphine and scopolamia method known as "Twilight Sleep," often producing "blue babies." He speaks of the nitrous oxid and oxygen as "sunrise slumber," producing "pink babies." Personally I have had no experience with the administration of this gas in obstetrical work.

Nitrous oxid oxygen gas has its limitations which differ greatly in the hands of the expert and the average anaesthetist. We consider this anaesthetic contra-indicated for operation in children under five years of age, because they are so easily asphyxiated, and that they pass from light to profound anaesthesia so quickly—ether is safer.

Nitrous oxid and oxygen alone are also contra-indicated in old people in whom a degenerative process of the body is manifested, especially in cases of marked arterio-sclerosis. If anaesthesia be accompanied by cyanosis the brain is greatly congested and so dilated that it not only completely fills the cranial cavity but protrudes from the opening in the skull. In the presence of a diseased and weakened condition of the walls of the vessels in the brain the above phenomenon would prove injurious, if not fatal. And again it would be unwise to attempt to anaesthetize with nitrous oxid and oxygen a strong vigorous man whose habits include excessive use of tobacco and alcoholics.

The ideal patients for nitrous oxid and oxygen anaesthesia are the very ill, the anaemic, the debilitated, those possessing low vitality from any cause. All except those requiring a powerful anaesthetic agent.

All cases may be handled safely and successfully, if the nitrous oxid oxygen be administered with skill, and by the judicious use of ether in combination with the gas, as it may be indicated.

We have used this anaesthetic in the Sanatorium exclusively as above described, for the past two years, and with gratifying results.

WHAT A MODERN COMMUNITY HAS A RIGHT TO EXPECT OF ITS PHYSICIAN.

*By E. W. Pressly, M. D., Clover, S. C.

THE PRACTICE OF MEDICINE is one of the old arts. It antodates our modern civilization; it antedates the Crusades; it antedates the Dark Ages; it antedates the time when the great Alexander sat upon the banks of the Indus and wept because there were no more worlds to conquer.

In one of its subdivisions at least, viz.: the Obstetric branch, it was already old when Romulus and Remus were laying the foundations of the wall about the infant city of Rome.

It was already old even when the taskmasters of the Pharaohs were rearing the pyramids and when the Hebrew mother, Jochebed, with a faith in her God and herself that has been an inspiration to mothers for forty centuries, "took her ark of bulrushes and daubed it with pitch and with slime," and placing her infant son therein, committed him to the tender mercies of the Nile, that he might escape the consequences of that cruel edict of Pharaoh, known to history as Rameses II; an edict dooming all the male children among the Hebrews to death immediately after their birth.

In fact, so old is this art that it is almost synchronous, almost coeval with that primal perfect day, now sixty centuries agone, when the Mas-

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

ter looked upon his completed creation and pronounced it "Good," and when by way of celebration, the morning stars, harmonious, choraled their triumphant paean, and the sons of God, exultant, shouted over a world new born.

It would seem natural to suppose that an art so long and so constantly practiced would have the metes and boundaries showing its duties and responsibilities accurately defined and thoroughly understood.

Yet such is not the case today, however, it may have been a few decades ago in the days of our fathers.

In those days when a physician had ministered to the acutely sick in his neighborhood their due proportion of pills and powders; when he had officiated at all the neighborhood accouchements; when he had operated as universal glad hand artist and general congratulatory medium at all the neighborhood weddings and had exhibited a properly sympathetic arrand a properly lachrymose eye at all the neighborhood funerals, he was held even by the most rigid casuist to have discharged all the obligations devolving on his position.

But the physician of today who confines himself to these things, however efficiently he may discharge them, will fall far short of what may rightly be expected of him, and will lay himself liable to that rebuke that has blistered the backs of inefficient servants these nineteen hundred years, viz.: "These things ought ye to have done and not have left the others undone."

The general adoption of the ideas of community life and community obligation, together with the broadened and ever broadening affirmative answer to the question of the ages propounded by Cain, "Am I my brother's keeper?" has immeasurably increased

the obligations of the physicians of today.

Nor are these added duties anything unfair or unreasonable. They are, in fact, but another illustration of a principle annunciated as long ago as the days of the "Man of Gallilee" that "Unto whom much is given of him do men require the more."

For, in the small towns and villages and in the distinctively rural districts where more than 75 per cent of the South Carolina physicians are to be found, the physician is practically always one of the best educated men in the community, and, in the very nature of the case, it must remain true for many years to come that the triumvirate composed of the physician, the minister and the school teacher will constitute the hub around which will revolve all that is best in the social, educational, the civic, the hygienic, the economic and the ecclesiastical life of the community.

Hence, it has seemed to the writer that if it is well for the organized pro fession of the State to devote two days and nights to a discussion of our obligations to the sick, surely a half hour will not be misspent in discussing our obligations to the well.

The subject will be developed suggestively rather than exhaustively, for time would fail sooner than material were an exhaustive treatment entered upon, and will be developed along the following lines:

1st. A modern community has a right to expect of its physician first, that he will be a force making for education, especially along sanitary and hygienic lines; second, that he will be a force making for civic and economic progress; and lastly, that he will be a force making for judicious conservatism in thought.

A few instances will suffice to show

some of the lines along which an educational influence should be exerted.

From the earliest period of historic time till today the pathway of mankind down the ages has been marked on the right hand and on the left, so thickly with the open graves of the tubercular that practically they trench the one upon another. Yet these deaths were largely preventable.

The modern community has a right to expect its physician to teach them correct ideas as to the cause of this malady that intelligent steps may be taken for its mitigation.

And surely, in view of the grossly erroneous views, at present largely held among intelligent people, as to its causation, such educational effort is needed.

Many persons imagine that this, that or the other individual becomes tuber-cular because of an inscrutable dispensation of a Providence whose wisdom none can gainsay and whose power none can withstand, though the same individuals hold no such erroneous views as to the causation of pertussis.

Now, however, much one may believe in the doctrine of special providences (and none hold to it more tenaciously than the present writer), it may with all safety be asserted that this is not the kind of providence that has cared for mankind through all its experiences, whose banner over them from the beginning has been love and whose goodness is continued with them still.

A beneficient Providence does not arbitrarily pick out the fairest and brightest in our families and without ryme or reason doom them at an early age to a tubercular grave.

Again, another error as to causation to be corrected is this, that parties get tuberculosis just as they get the color of their hair and eyes, the configuration of their features and their general physical and mental characteristics, viz.: by direct inheritance from their ancestors.

So when it is reported that any given individual is tubercular, some pious female or male sister rolls up his or her eyes and says with a sigh, "Oh, so sad! but you know that the third cousin of the stepbrother of the sister-in-law of this party had consumption, and so you can see that he has inherited it."

Children are probably born myopic by direct inheritance; children are probably born idiotic by direct inheritance; children are probably born hemophiliac by direct inheritance; children are certainly born luetic by direct inheritance; but children are not born tubercular either by inheritance or otherwise.

Again, another prevalent error needing correction, is that people become tubercular from too constant exposure to night air, forgetting the obvious fact that the night air is the same as the day air, plus a little excess of moisture, and overlooking the further fact that we can have few agents more potent in our fight against this malady than an abundance of fresh air at night.

In fact, no thing necessary to continued life comes to us from the Creator in a condition to harm us.

There is nothing inherently polluting to our vegetable foods in the clods of the valley; there is nothing inherently poisonous in the waters of the fountain; and there is nothing inherently deadly in the air of the night or day.

It is only as these become contaminated by our own filthy and vicious habits that they blacken and blast and damn.

A modern community has a right to expect that its physician will teach

them the true causation of this disease, viz.: that tuberculosis is an infectious disease, and is spread by infection only, and not permit them to go carrying with them these afore fantastic ideas to their own and their children's lasting undoing.

This idea should be promulgated by physicians in season and out of season, through good report and evil, in prosperous times and adverse, through glory, and if need be, through shame, whether men desire to hear or do not so desire.

It is, however, of little use to waste time talking to men over forty years old. What men have believed up to that time they will continue to believe. As they have lived prior to this time they will continue to live.

But an hour cannot be spent to better advantage than by stopping at a school house and talking to teacher and pupils upon this subject and you will always find the teacher, not only willing to have you make such a talk, but anxious to see her pupils act accordingly. For, however, short the average lady teacher may be on syntax and prosody, she is always unanimously long, even if misinformed, on fresh air and the uplift. But the main place to preach this doctrine is to the mothers in your community. wherever her home,—whether dwell beneath the ardent sun and among the plumy palms of the tropics, or rear her miserable igloo and pass her monotonous existence in the home of eternal winter and the land of the midnight sun, and whatever her station in life, whether she dwell in the palaces of royalty, in the mansions of the rich, in the homes of the comfortably well-to-do, in the woodland cottages with barky walls that shelter the brood of the pioneer, in the hovels of the poor, or in the dens and slums where lurks the social outcast and the pariah; whatever her station and wherever her home, the heart of the universal mother is the same and counts her own life even but as small cust in the balance when compared to a possible good that she may do her little ones. Once convince a mother that she can so rear her children as to give them a large degree of immunity from this scourge, and she will give neither "Sleep to her eyes nor slumber to her eyelids" till she has set on foot means for securing this coveted consummation.

A modern community too has a right to expect to receive from you right ideas as to the blighting effects that so often follow the exanthemata and other diseases of childhood. these diseases so often prepare the soil and pave the way for tubercular infections later on, or perchance how they may leave their subjects deaf or blind for all time. How these diseases are, in fact, the analogues in real life of the upas tree of fable, and like it willingly allow no beauteous flower of health and vitality to flourish in their You will need too to drive home the lesson that the family milk supply is often far from being above suspicion, though it is secured from the family cow, for too often this animal is kept stabled amid unsanitary and filthy surroundings, and that because the family drinking water runs bright and sparkling from a natural spring on their own premises, it is not an assurance that under present circumstances of population and industry it is still as pure and free from contamination as it was in that elder day when this same spring offered a place and opportunity for slaking thirst alike to the peaceful and savage denizens of its surrounding forests.

In the second place, your community has a right to expect that its physician will be a force making for progress along civic and economic lines. The community idea of responsibilities and the community idea of life are with us to stay and to grow, and the physician is expected to be in the forefront of the effort to develop a community along these lines.

Again, let us illuminate and enforce this point by a concrete example, rather than by abstract reasoning.

The State in its wisdom (born of experience) has decided that its future safety depends upon its having an educational citizenship.

Accordingly it has provided schools at the public expense wherein all of its children are given an opportunity to acquire something of an education, thus giving to every child a chance.

But what will this chance avail to the child of parents who, either blinded by ignorance or besotted by prejudice, or steeped in avarice, neglect or refuse to allow the child to take advantage of the school opportunities so afforded.

The physician more perhaps than any other in the community, knows something of the possibilities inherent in a child, and realizing this, the community has a right to expect its physician to take as his motto not simply "For every child a chance," but also a chance to make good on that chance.

The community has a right to expect that its best educated members shall enlist early for this fight and shall continue in it until each child in that community has had an opportunity to make itself what in the economy of God and nature it was intended to be.

He will be expected, and of right and justice, to set his face as a flint against any system (however hoary with years and however buttressed about with the authority and prescription which antiquity gives) that dooms even one child in the community to a hapless, helpless, hopeless slavery to ignorance and prejudice and avarice.

But some changes are not things to be desired. Some are in the wrong direction. Some are not progression, but retrogression. Some take us mentally not beneath blue skies and by bright waters into pastures green and meadows fertile, but through darksome caverns where poisons distill instead of waters, and where serpents hiss and crawl and sting, to a land sterile as the ashes of Sodom above whose entrance may well be craven, "Abandon hope all ye who enter here."

Against these undesirable things the physician is in the last place expected to be a force making for conservatism.

This land, to give an instance, is literally being inundated with a flood of theories and isms, running from rationalism through materialism, mysticism, down to socialism, Dowieism, Eddyism, and last of all, and as it seems to this scribe, infinitely worst of all, feminism.

And these theories are being accepted not alone by the weak kneed, gelatinous offspring of spineless ancestry with which this country is so multitudinously cursed, but they are being accepted even by the descendants of Scotch-Irish ancestry—a people who should by inheritance possess those iron virtues that have made them the consistent friends and the unawed supporters of civil and religious liberty through every variation of fortune from the days of Oliver Cromwell till now.

Theories, some of them are so at variance with all the accepted canons of right thinking that literally their heterodoxy smells to heaven. Others of them are hallucinations as substanceless as the shadow of a shade. Others still phantoms as baseless as the dreams of a dreamer who dreams that he has dreamed. Others still are

chimeras as certainly fatal to all proper mental and spiritual life as the illusive mirage of the desert is certainly fatal to the physical life of the thirst-stricken traveler who allows himself to be deluded by the apparent vision just a little farther on of an oasis with gurgling brooks and laughing waterfalls, of waving palms and cooling shades, where the earth is carpeted with verdure, and the heavens are garnished with gladness.

A community has a right to expect that where its physician stands there will stand a fortress flying the flag of right living and right thinking, against which all the waves of error, whether civic, economic, educational, financial, or what not, shall dash and beat and break in vain.

To paraphrase the words of another, and spoken upon another subject, a community has a right to expect its physician to be "A man whom the lust

for power cannot corrupt; whom the love of money cannot make avaricious; a tall man, sun crowned; a man who in his public duties and his private thinking, rises above the fogs that becloud the mentality and circumscribe the horizon of the majority of mankind within such narrow limits."

NEWS ITEM.

The Bamberg County Medical Society met in regular meeting at Bamberg, S. C., June 9th. Officers elected were as follows: Dr. J. H. Roberts, Ehrhardt, S. C., President; Dr. J. S. Matthews, Denmark, S. C., Secretary-Treasurer; Dr. J. J. Kleckley, of Bamberg, S. C., read a paper on Cancer of the Breast. Dr. J. S. Matthews, of Denmark, S. C., read a paper on Cancer of the Cervix. The attendance was about the same as usual.

Minutes of The House of Delegates---Sixty-seventh Annual Meeting of the South Carolina Medical Association, Greenwood, S. C., April 20, 1915---Concluded.

DR. ROBERT WILSON: Mr. President, I hesitate to speak in opposition to the suggestion of Doctor Wyman, but frankly, with my present light, I can not do otherwise. I think that I will not be misunderstood in taking the stand I do. I have talked to young men in schools and colleges and I have talked on these subjects to mixed audiences; I have had young men come to me after my talk and tell me that it had done them a great deal of good; but notwithstanding that, the more I think and see and hear about this method of reaching the subject, the more convinced I am that it is wrong, and in the large majority of cases it does more harm than

The only way is the way of education—but that is not the way to educate them.

Addressing a class of young men may, in one or two instances, among the members of that class, be necessarily profitable. With the majority of those young men it is going to be suggestive, and therefore, harmful.

A friend of mine told me—and I know that he told the truth—that at Cambridge where Professor James, Professor of Science, every year gave his students a lecture upon this subject, he perceived that every year for several years,—and I think that no one could present such a delicate subject in a more refined way than Doctor James—after a while the medical men at Cambridge asked Doctor James to stop those lectures, because, after each lecture gonorrhoea increased. The result was not good, and I believe it will be so with us.

I believe that there is preeminently one teacher who can reach the boy, and that is the mother, and next the father, and the mothers and fathers must not shirk their duty. A mother came to me and asked me to talk to her boy. I told her I would be delighted to do it but I told her, "You are the proper one to do this duty, and you are shirking your duty." The next time I saw her she said, "Doctor, I have thought about it. I have talked to my boy and i am glad I followed your advice." Next to the mother comes the father, and then the physician, but it must be a heart to heart talk between the physician and the boy or girl, as the case may be. I have had no experience in speaking to girls; but I believe that the suggestion of Doctor Wyman and that Committee will be productive of harm and not of good. Therefore, I shall vote against it.

DOCTOR KIBLER: I have to take issue with the Doctor. I think he is wrong. Self preservation is the first law of nature. Self propagation is akin to that, and the second law of nature. Every youth will learn at some time in his life the great desire that he has of reproducing himself, either for the purpose of having a progeny, or for the purpose of satisfying his own sexual passion. When that passion is excited in ignorance, not knowing the consequences that follow for future generations, to say nothing of the infections of his own espoused wife, that individual should be enlightened, and the only way to put down any crime is to educate the masses of the people.

The greater the ignorance the greater the crime, and you will find more of these venereal diseases among the ignorant people-cotton mill people-than those in the higher walks of life; and for that reason I think we should not only attempt to educate the young men of our schools but should go into the towns and cotton mill districts and have talks and educate the young people up to the enormous consequences of venereal trouble. We know from statistics that fully 95 per cent of all classes of women that are engaged in this State in that business are negroes, and nearly all are infected with either gonorrhoea or syphilis, or both, and most of the young men are infected from this source. Now, this is carried directly into their marital relations in a few years, and we have the degenerates resulting therefrom.

I had occasion not long ago to give a talk of this kind on personal purity before the student body of our town,—Newberry College—and I think the talk was appreciated by the faculty and students, and a number of them came to me afterwards, asking questions and wishing to be enlightened on the subject. The question you have to arise to is to show that sexual congress is a natural congress, and it was intended for the multiplication of the race, and also, you can get the minds of the youth to distinguish between sexuality and sensuality. When you have done that you have done much.

The idea of exciting the minds of the youths I feel is prudery instead of hard, common sense, and we should talk in heart-to-heart talks to the student bodies and ask them to meet you in the anterooms on any subject they may desire.

DOCTOR CARPENTER: Those of us who have read Flexner's book on prostitution in Europe are convinced that police control is unsatisfactory.

I do not wish to go on record as endorsing all the educational propaganda now placed before the public; still, the matter remains an educational one. I do not think the universities the best place to begin in this educational campaign. I think it should be begun much earlier. We have not worked out a satisfactory scheme to reach the school systems. The best solution of the matter seems that we can reach the young man largely through the Y. M. C. A., and also through the channels of the university.

I have had some experience for a few years in connection with the university in Greenville, and have had a great deal of satisfaction in my talks with the boys under the supervision of the Y. M. C. A. I have had numerous young men ask for personal interviews, and I am sure that what few remarks I have made have borne fruit.

The instance Doctor Wilson mentions we do not dispute. We know it is a fact, as he has stated, but I believe that that is an isolated instance. I do not believe that the results of talks on personal purity before young men of university age have borne the fruits that Doctor Wilson has related here tonight. I think we should do this work in our towns and before our student body.

DOCTOR HAYNES: Doctor Wilson has

just touched on one question that I had made up my mind to suggest to Doctor Wyman: Nearly every town of any size has a Y. M. C. A., and on Sunday afternoon they have a special service for boys.

We have a very good and a very large Y. M. C. A. at Spartanburg, and a very large attendance of young men at four o'clock, and boys at three. Sometime ago the Secretary came to me and asked me to address the boys, and the following Sunday afternoon, on the following Sunday. I decided I could not talk on anything that would do the boys more good than to talk about venereal diseases. I talked on those things for twenty-five or thirty minutes and just that day happened to know of a case of gonorrhoea that was sent to a friend of mine. I do not treat those diseases and went to him to get a specimen. I took the specimen and stained it up and took it to the Y. M. C. A. and spoke of the bad effects on the future welfare-their wives and their daughters, and, like the Doctor just spoke of, I certainly was surprised the questions those boys put to me, and their knowledge of these subjects. I had no idea those boys ten and twelve years of age knew such things as shown by the questions asked, and I think those boys are the right age to start on-not when they get to the universities.

DOCTOR O'DRISCOLL: I do not think self preservation is the highest law of nature. If the results of these talks do benefit one or two and do harm to the majority of the audience, then you are saving one or two individuals at the expense of the majority. I think we mistake the interest. I have seen both college students and those in Charleston who correspond to the factory people of the upper part of the State, and endeavored to get the opinion of these young men of the effect it has had upon them and upon their fellows, and it is almost the universal opinion that it excites the hearer. Therefore, I can not approve of this form of education. It has been tried out in the public schools of Chicago and has there been a failure.

I think at the present we are just beginning to feel the wave of reform. The beginning of this wave would suggest that we make this campaign of education, whereas the end of this wave would prove us our error. I think we should profit by other cities and States who have passed under the wave.

I would register my objection to the police supervision of these houses of ill-fame as giving my stamp of approval, for the necessity of these houses. It is possible we may have to tolerate them, but tolerance does not call for any approval or any acknowledgement of necessity.

DOCTOR LANCASTER: I believe the education ought to be from us to the parent direct—not in public schools, but in a heart-to-heart talk with the mothers and fathers of the young. That is the way I feel about it. I think we ought not to license houses of ill-fame. The more dangerous the boy knows these houses to be, the less frequently he will visit them. If we could appeal personally to the boys, I think we could accomplish more.

DOCTOR COWARD: I think it comes to few men, and it is the proudest moment of my life when I can stand up against Dr. Robert Wilson and know that I am right.

We have no professional uplifters in this State. Personally I am old-fashioned enough to think, and I think it very strongly, that a physician's name, like a woman's, should appear in public print twice,—when she is married and when she dies. I object very seriously to having the programs of these meetings appear in the public press. I object to having comment on them in the public press.

I wish to say, in defense of my remarks in regard to Doctor Wilson, because his eloquence and his standing almost carry me over, and perhaps carried a good many. This matter is going to get away from the medical profession unless we take hold of it. We will find the public health work done by sanitary engineers,—by any onc, except the M. D.'s. It has been the proud boast of the profession that they seek to suppress the very diseases that they earn their living by, through attempted or successful cures. I would like to see that kept up. I would like to feel that that is true.

The point that I made in my first talk is that I wish to impress now: This knowledge is broadcast. It is being scattered more and more. Nothing is now kept out of the newspapers. The most intimate details of marriages and of other affairs are published; the laity is getting knowledge of these things and it is up to us keep ahead of the laity. If we are not going to do this, some one else is. If we are going to hand it over and say it is beneath

the dignity of a medical man to be mixed up with venereal diseases, very well. I hate to see Doctor Baker stand isolated. It takes a man to stand up. He has got to have the grit to stand up and talk about these things. You can put out the red lights if you wish, and what will you do? What did Atlanta do? Atlanta chased all of the women who could find accommodations over to Columbia, to my personal knowledge; and I presume that Sumter and Charleston and other towns got their proportion. I was approached by the ministers in Columbia on the subject, who said that Columbia had been made the dumping ground and they wanted to chase them out. I attended a mayor's court this morning. One was given a fine and the other was told to keep out of the city limits.

Gentlemen, that is not keeping out the evil. We want to prevent the boys, first, from getting these diseases, and when we do that, we have prevented the girls from getting them.

The United States Army recognizes frankly this condition. It gives to each man, a package with full instructions what to do. It advises him not to go to such places when under the influence of alcohol. Perhaps the alcohol is the guiding thing, at least to a man of high standing, for he never goes to such places unless under the influence of alcohol. It is far from my wishes to take the boy or girl from the guiding influence of the parents, but I do think, unless we are going to shirk responsibility and if the information is going to be distributed, let us be the ones to give that information.

DOCTOR TRIPP: Mr. President, I do not live in a city, but I want to give you a countryman's experience. After hearing Doctor Wilson's talk against the lectures, and Doctor Kibler's for them, I almost feel like they did at the church in trying an old sister. Aunt Mandy said, "If there was more done, and less said about it, it would be better."

Gentlemen, the remedy for a country boy is to advise him to get married. I do not know of anything that brings the manhood out in a young man like getting married and raising a family.

A MEMBER: Just a word in regard to what I have started in Florence, that I hope will have some effect in reducing the effect of venereal diseases. I have taken the opportunity of addressing the

boys in Florence on several occasions. I find that little boys—I say little boys, because little boys know about venereal diseases at a very early age. You would be surprised at what age they learn about things which they ought not to. I get them into my office and try to give them information that they ought to have, and to disabuse their minds of information that they ought not to have. When I went on to tell them that it might last them all their lives, and that their children might suffer in consequence of diseases contracted and that they must not listen to the older boys that it was easy to cure. I am not much of a public speaker, yet I can tell those boys things that they ought to do, and you will find it easier to get a crowd of boys to come to hear subjects of that kind than on any other subjects that I know of. In little boys ten years of age, I question them of their knowledge of gonorrhoea, and every single one of them know about it, and the big boys all thought that the cure of this disease was a very small matter.

I trust that I can do good. When a boy contracts a disease of this kind his father is the very last one that he is going to about it. You can tell a boy anywhere from ten to twenty years of age, before he has contracted bad habits, about exposing himself to comtamination. I think some good can be done, and the boys are always willing to come to hear talks on the subject.

DOCTOR WILSON: I suspect Doctor Coward, and possibly some others, misunderstood me. I am not opposed to the medical profession taking hold of the matter, but am opposed to it doing it in the way that Doctor Wyman proposes. So far as being opposed to it, it is their duty to do it. Two fallacies, in my judgment, have been expressed in the discussion: One is, that knowledge is a sure safeguard. If that were true, Mr. President, medical students would, of all men, be the most moral. Are they? (Applause.) I am not asking that in jest. Isn't that so?

Another fallacy is that self preservation is the first law of nature. It isn't. The preservation of the kind is the first law of nature. It is a law which runs through all the animal world; it runs through the human world.

Mr. President, I move the adoption of the report with this amendment: That the clause advising instruction to school boys and school girls be omitted.

THE PRESIDENT: Doctor Wyman, will you accept that amendment?

DOCTOR WYMAN: Yes, sir.

Motion adopted.

Report of Committee on Efficiency and Standardization of Hospitals, read by Doctor Hines, as follows:

REPORT OF COMMITTEE ON HOSPITALS.

The successful campaign to elevate medical education in this country led to a necessity for a similar investigation as to the efficiency and management of our Hospitals. Such investigations have been made recently in New York and Philadelphia, and perhaps elsewhere. In Philadelphia the investigation was undertaken by the County Medical Society and was most thorough and far-reaching. In recent years a section on Hospitals has been added in the American Medical Association. The American Hospital Association has demanded an investigation of our Hospitals-by some powerful outside agency, such as the Carnegie Foundation.

The continued activities of the Council on Medical Education of the American Medical Association demonstrated that before the proposed hospital internship should be required of every graduate of a medical college the Council would have to investigate for itself the capacity and efficiency of the Hospitals in the United The plan as thus far developed States. appears to be to appoint in each State a Committee to co-operate with the Council in pursuing their investigation. The Council will send experts into each State to gather data. In addition the Council appointed the Committee for South Carolina in the summer of 1914. A preliminary investigation of the majority of the Hospitals in South Carolina has been made by personal visits and otherwise, and a report forwarded to the Council.

All of this work is in its infancy, but its importance in promoting higher medical education and in securing the very best service to the sick public can not be over estimated. The Committee will probably be permanent and, therefore, we respectfully request the endorsement of the House of Delegates.

ROBERT WILSON, JR., Chairman.

S. C. BAKER,

E. A. HINES.

DOCTOR EARLE: I wish to move that the House of Delegates endorse the action of the Committee on Standardization of Hospitals, as rendered by Doctor Hines, and the Committee continued.

Motion carried.

Report of Committee on Study and Prevention of Tuberculosis, by Doctor Dawson, as follows:

I worked very hard on that thing for several years, and nothing was done and no reports made. I have not had time to take the matter up again this year and try to reorganize the work throughout the State. Spartanburg has done some work, and one or two other places, but very few places have taken interest in it.

It is very hard to get interest in the Study and Prevention of Tuberculosis. Why it should be I don't know, except for the fact that a man with tuberculosis tries to conceal the fact, first, from himself, and next, from his friends; and that is one of the reasons the public in general takes so little interest in the prevention of this disease?

However, if it so pleases you, I will try next year to make a report on this.

DOCTOR COWARD: I move that the House of Delegates now stand adjourned until 3:00 p. m., at this place.

Motion carried.

AFTERNOON SESSION.

Doctor Hines reads communication from the Cancer Committee of the State of Pennsylvania, stating that they have received the co-operation of about twenty other States, and requesting that South Carolina have a Cancer number in the month of June.

Upon motion of Dr. Tyler, the above accepted.

Communication from the Louisiana State Medical Society, asking for a fraternal delegate, but the South Carolina Society meets on the same date as the Louisiana Society.

Communication from the A. M. A. proposing to amend the Constitution of the A. M. A., so as to give the Judiciary Council the same rights as an appellate court.

The President appoints a Committee to look into the matter and report back to the House, as follows:

Doctors Hines, Neuffer, and Tripp.

Letter from the Columbia Medical Society opposing amending Medical Practice

Act, believing it to be inexpedient at this time.

DOCTOR HINES: Mr. Chairman, I had a communication some time ago from Doctor Tyler, of Greenville, making a request that we appoint a delegate to the State Dental Association, which meets the last of April, in Columbia.

DOCTOR ROSS: Mr. President, is this Doctor Tyler from our Association?

THE PRESIDENT: Yes.

DOCTOR ROSS: It looks to me we should have a request from the Dental Association.

DOCTOR BUNCH: Mr. President, in the report of the Committee on Health and Public Instruction, this morning, it was recommended that we send from this organization a fraternal delegate to the State Association of Dentists, and also the State Association of Druggists. I move that such delegates be appointed.

Motion carried.

The President appoints Doctor Tyler delegate to the Dental Association.

DOCTOR TYLER: I thank you for the honor, sir; and I should like to serve, but it will be impossible for me to be in Columbia at that time, and, if you will pardon my suggestion, the Chairman on Health and Public Instruction is a resident of Columbia, and I would suggest him.

THE PRESIDENT: I will apoint Doctor Weston, and I will appoint the other delegate later.

DR. HARRY WYMAN: It seems to me reciprocity should be in order, and I move that these Associations be invited to send a delegate to our meeting.

Motion carried.

NEW BUSINESS.

DOCTOR ROSS: Mr. President, last year I was a delegate from our County Society to this State Association, with a resolution in my pocket requesting some relief from the illegal practitioners who were so numerous in our section about that time. I came down to the Association and when I got down to Florence I was ashamed to open my mouth, because I found we were so much better off than they were. I was ashamed to bring it up.

Just now we do not seem to be in such bad shape.

Last year when I broached this matter to some of the members they apprised me we had the best law in the United States, copied after the law of the American Medical Association, that could not be improved upon, but if we had any improvements to suggest, they would be glad to receive them. I made my report to the County Society, and we find upon investigating the Medical Practice Acts of the States, that instead of the law of the State of South Carolina being such a superior instrument, it is rather an inferior one, even though it was copied after the American Medical Association.

Every man here who has taken any step in trying to prosecute an illegal practitioner in this State knows it is almost an impossibility to accomplish it. I believe two men have been reported today who have been successfully prosecuted, whereas, if you went over the whole State, you would find probably 200. Some men defy us and say, "I will practice as long as I choose." Others are amenable to argument and agree to go ahead and take the State Board at some future time. Sometimes you can bluff them and sometimes not. If you can not bluff them and get them to agree to quit you have no recourse, because it is almost impossible to get these people prosecuted. So, in view of that fact, the Anderson County Society has worked up this matter and sent copies throughout the State to the Presidents and Secretaries of each County Society, and as a result of which you hear the communication from the Columbia organization. We did not expect this to meet with the approval of every practitioner in this State. I have talked with several members of the Board of Medical Examiners and with the President of this Association, and they all agree that the State Medical Practice Act should be revised; that it is probably about ten years in arrears, and the only way to do it is to revise the whole thing. The President this morning, in his address to the House of Delegates, called attention to the optometrists and the osteopaths and so on, and he also requests that we take some action as to these two different branches; and in view of the fact that the whole thing ought to be gone over and revised from start to finish-in fact, a new act ought to be introduced-we think the best thing to do is to turn it over to a committee appointed by the President to revise the whole thing and present it to the next meeting for their consideration.

DOCTOR EARLE: Mr. President, I move that you refer the matter to a Com-

mittee of three, to be appointed by yourself, and let them report at the next meeting.

QUESTION: What shall be the duty of those three?

THE PRESIDENT: To report and amend the Practice Act, if they see fit. I will appoint on that Committee:

Doctors A. E. Boozer, Columbia, Chairman; C. F. Ross, of Anderson; J. S. Matthews, of Denmark.

DOCTOR OUTZ: Mr. President, I would like to bring a matter before the House of Delegates, in order to get the sentiment of the members of this House. I am not sure that everyone will be interested in it, but I am pretty sure, when I explain it, that those living in rural districts and country towns will appreciate what I am trying to do.

In the country towns and in the rural districts the practitioners there are wholly dependent for their living upon the agricultural class of people, and I have some resolutions here which will explain my position, and I would like to get the sentiment of the members on it:

RESOLUTIONS BY DOCTOR OUTZ.

Whereas, under the laws of South Carolina the physicians are unjustly discriminated against in the collections of accounts for their professional services.

Whereas, the doctors in the rural districts and country towns are called upon to maintain the health of the people in the community in which they live so as to make cotton and tobacco for the landlords, bankers, guano manufacturers, time merchants, and others to the financial detriment of the doctors; and,

Whereas, the agricultural classes, under existing laws, are not permitted to pay their bills for medical services from the product of their labor, until every other demand has been satisfied without incriminating themselves.

Whereas, under existing circumstances, and unjust discriminations under the laws of the State, the pitiful and meagre compensation collected by the said physicians will not enable them to properly equip and maintain an office, nor provide themselves with instruments and means to render their patients the most efficient service, thereby entailing a financial and economic loss to the agricultural classes who are

and must always be the foundation of the wealth of the State; therefore, be it

Resolved, by the House of Delegates of South Carolina State Medical Association, That this important matter be called to the attention of our Legislative Committee and they be requested to memorialize the General Assembly of the State that it may remedy the evils herein above mentioned.

Resolutions seconded.

DOCTOR ROSS: What was the remedy, Mr. President?

DOCTOR OUTZ: I have not suggested any remedy. I suggested that this be called to the attention of the members of the State Legislature, in order that they might get up something to remedy the evil. I would suggest there that \$25.00 be exempted from the products of the labor of each family, to pay their physicians' bill with. Last fall I appealed to a number of parties who were in debt to me. If I disposed of a single pound of their cotton to pay my bill the landlord would lock me up. If the landlord will exempt \$25.00, he can pay his bill. However, I leave the matter to the General Assembly, that this evil may, in some way, be remedied.

DOCTOR EARLE: Mr. President, I think it would be utterly useless to bring this matter before the General Assembly without some definite means of correcting it. I, therefore, move that the motion be tabled.

Motion seconded and carried.

DOCTOR GREER: The Greenville County Society have asked me to read these resolutions, and ask their adoption by the House of Delegates and to ask for their publicity in the papers throughout the State.

RESOLUTIONS OF GREENVILLE COUNTY MEDICAL SOCIETY.

As a result of the stringent United States laws which went into effect March 1st, it has become very difficult, if not impossible, for individuals to obtain habit-forming drugs, except on a doctor's prescription.

Since there is a treatment for the drug habits available to rich and poor who are physically fit to take it, the responsibility for the continuance of these habits and for the formation of them in new cases must be assumed by licensed physicians. Therefore, be it;

Resolved, by the Greenville County Med-

ical Society that the physicians of this county decline to prescribe for drug habitues except:

First: The age or infirm. Second: Incurable sufferers.

Third: For use in tapering off those taking treatment.

Fourth: A sufficient amount to enable habitues to reach the place where treatment will be taken. Be it further,

Resolved, That this Society consider it highly reprehensible for any physician to prescribe these drugs for any one who is not his regular patient. Be it further,

Resolved, That the Greenville County Medical Society recommend the adoption by the State Association of these or similar resolutions.

DOCTOR TIMMERMAN: It is possible that the physician who prescribes for that man regularly might be out of the community and it might be an absolute necessity for that man to get it.

DOCTOR GREER: It was not to prescribe for habitues. That is the only way to break them at all.

DOCTOR ROSS: Mr. President, I move that this resolution be adopted.

THE PRESIDENT: Is there any discussion?

DOCTOR TIMMERMAN: I think the intent of that is very good, but the phraseology is not what it should be.

A MEMBER: It does not mean anything.

DOCTOR TIMMERMAN: A habitue might develop something where he needed it awfully bad and his physician might not be where it could be obtained, and, therefore, any physician who would prescribe this for him would be in bad standing with the Society. I, therefore, move that this part of it be stricken out.

Motion carried.

DOCTOR GREER: If that clause is stricken out, I do not see any necessity for passing the resolution.

DOCTOR CARPENTER: I would suggest that he insert the words, "Except in emergency."

THE PRESIDENT: Doctor, will you accept the amendment to insert "In emergency?"

DOCTOR GREER: I will accept it. Motion carried.

DOCTOR WARD: I would like to bring

a matter before the Society along the same line: We understand that morphia is to be prescribed only by reliable physicians. What I want to bring before the House is this: That we urge the Collector of Internal Revenue to refuse the license in July. when the new license will be issued, to any man who can not prove that he is a licensed practitioner. As it is, veterinarians and dentists get license. Of course, we have nothing to do with them. They will get them any way. I think only licensed practitioners in the State of South Carolina should be issued licenses. I believe that clause would break up a great deal of illegal practice. The trump card of the illegal practitioner is in giving morphine, and if you cut him off from that you cut the pins from under him; and I believe a petition to Mr. Heyward, insisting that he require a man to show that he has passed an examination by the State Board of Medical Examiners or that he graduated prior to the Medical Practice Act, would be the thing.

Seconded.

DOCTOR COWARD: I wish to second that also, and I feel that it would be a serious mistake if this is passed without taking some such steps.

Several physicians have talked with the Collector for this State in Columbia, who said in the rush of work in the short time he had, he was not able to go into these matters, and the best he could do was to send licenses to every one who applied. The law distinctly states that these licenses shall be issued only to licensed physicians. Now, it is up to us to insist that he shall not issue such license. He can not give such excuse in June, and I think it will solve our problem of illegal practitioners and take it out of our hands and save all of us, perhaps, some unpleasantness, and it will settle the whole thing with the seal of the Federal Government upon it. The Federal Government licked us and I have never been able to forgive them for doing it, or to admit that they were right, but we have to yield to their will. The Federal Government, in its enforcement of law carries weight which our local laws do not carry, and if we can get the seal of Uncle Sam on this matter, we will have gone a long step further. think we should ask Mr. Heyward to endorse the resolutions which we adopt, if they are adopted, and send them to the

central office, and I think other States will take similar action.

South Carolina and Alabama are the only two States in the Union where the State Medical Association is the State Board of Health. We are in a unique position. If we are not careful with what we do, it is going to slip away from us. Men who come to the State Board of Health offices in South Carolina are astounded when they see what possibilities of power we have in this State. We should pass some resolution on this act. I have not practiced medicine for ten years. I have not taken out a license, I am glad to have the excuse for not occasionally giving morphine, and if you will let this pass by without taking some step, you will make a grave mistake. We should see that Mr. Heyward endorses it,—and he will, if we go at it right.

DOCTOR WYMAN: Why not say, simply, "Legally qualified physicians?"

DOCTOR WARD: I accept the amendment, and agree to Doctor Coward's suggestion in regard to the text of the resolution. I do not understand, however, how he wanted that worded.

DOCTOR COWARD: I move to amend that motion: that Doctor Ward so frame that that it goes to the Federal Government, and that it be sent to Washington instead of Columbia.

Motion carried.

DOCTOR GAMBRELL: I have been requested to bring this before the Society: That Doctor Norwood, who brought before this Society the use of Veratrum Viridelies buried with no mark to his grave, and I am instructed to request that the State Association appropriate \$150.00 to erect a monument of some kind to his memory.

Seconded by Doctor Neuffer.

DOCTOR SWYGERT: Mr. President. Dr. W. C. Norwood was one of the best men in therapeutics. Norwood, before the war, turned it over to the Shakers in New York, and those people have been putting up Norwood's Tincture of Veratrum Viride ever since. And it is the same old tincture today as it was when I first began practicing. I remember practicing with it when we had nothing to reduce fever with but Veratrum Viride. They gave it for congestions and fevers. I think we should pay that old man some honor. He lies there in the woods. He did not have the facilities that we have today, but in his

way he worked it up, found the dose and what it was good for, and today it stands, in my opinion, one of the best drugs in materia medica, and we should erect, in some way, some monument to his memory.

DOCTOR BATES: In this connection I would most heartily endorse what Doctor Swygert has said. I think if there is any man in South Carolina under the name of therapeutics who deserves a monument, it is Doctor Norwood. Possibly his services are not as brilliant as the ones achieved by Dr. Marion Sims, but just as much honor is due to him as to Doctor Sims, in his special field.

DOCTOR ROSS: If I remember correctly, the Secretary and Treasurer, this morning reported he had an excess of about \$199.00 the first of the year, and we have been undertaking memorials to J. Marion Sims, which have never been consummated, and I doubt the wisdom of doing it, in view of the fact that the treasury is not very flush. So I move that we take up an individual collection tomorrow during the general and scientific session.

DOCTOR COWARD: I will heartily second that amendment. I signed up years ago to a contribution for the Sims' monument that has never been called for. I have never paid it and it was my privilege, as the guest of Doctor Gambrell yesterday, to visit the spot which marks the grave of Doctor Norwood.

I don't think that we could do anything better than to look after these men. All of the brains do not come from Boston; all of the medical knowledge of the country is not centered in Baltimore, and as long as I shall live, at least, all of the sentiment and respect and regard for those who have made their mark shall remain with us. I am willing now at any time to pay my share to the Sims' monument. I think it is a disgrace to this Society that we have not made up our share of the Sims' monument fund, and I am willing to give my part to this monument—\$25.00.

DOCTOR GAMBRELL: I will accept the amendment.

THE PRESIDENT: The question is on the amendment.

The amendment is carried. Motion with-drawn.

DOCTOR TIMMERMAN: I move that we forego the entertainment tonight and I move that the sympathy of the Association be extended to the bereaved woman,

the wife of Doctor Swygert, who just died, and to his family.

Motion carried.

DOCTOR ROSS: I think we should take some action as to whether we should take part in this smoker, or not, tonight?

DOCTOR LANGSTON: I think we should notify those who are preparing the smoker that we do not expect it.

DOCTOR HAYNES: I don't think it would look right, when one of our beloved physicians has just dropped in front of us.

DOCTOR NEUFFER: None of us feel like going to a smoker tonight. Doctor Swygert and I were in college thirty years ago, and we have been practicing together ever since that time.

DOCTOR COWARD: I do not see that we should even consider any motion. I think the question of entertainment is off.

THE PRESIDENT: I do not think a motion is necessary, especially as the Chairman of Entertainment is here.

Upon motion of Doctor Timmerman the House takes a recess, out of respect to Doctor Swygert's memory, until 8:00 o'clock.

NIGHT SESSION.

DOCTOR NEUFFER: At the present time the authority given this Judicial Council by the By-Laws restricts their authority of appellate cases, and to overcome that the House of Delegates of the A. M. A. has suggested amendment to the By-Laws, amending Sec. 4, Chap. 5. Therefore, this Committee recommends that this House of Delegates approve of this change.

Upon motion, duly seconded, the report adopted.

Doctor Earle reads report of Committee on the President's Address:

REPORT ON RECOMMENDATIONS OF THE PRESIDENT.

- 1. We would advise that the recommendation of our President urging the liberal support of the State Board of Health, State Hospital for the Insane, Medical College of the State of South Carolina and the State Board of Medical Examiners be endorsed and referred to the Committee on Public Policy and Legislation, and that they be instructed to assist in obtaining these measures.
 - 2. We urge that the President appoint

a special committee to deal with the advertising quack situation.

- 3. We earnestly recommend the Printers Act Law be passed and the same be entrusted to the Committee on Public Policy and Legislation.
- 4. We heartily recommend the attitude of the President in regard to liberal support of The Journal and commend its support to the Council.

C. B. EARLE, W. W. FENNELL, WILLIAM WESTON.

Upon the motion of Doctor Coward the report is adopted.

DOCTOR HINES: Mr. President, I would like to bring up a matter just here. It came to my attention as Secretary, a few days ago, that one of the papers published in this town recently took a stand against all patent medicine advertisements. They have a letter commending them from the A. M. A. which I have seen. This is the Greenwood Index, a weekly paper. They say, and it is probably true, that theirs is the only paper in South Carolina that has taken this positive stand. It is in line with a motion made at the House of Delegates of the A. M. A. two years ago in Minneapolis, in regard to one of the newspapers in that City, which took the same stand.

I move that we commend this paper for the stand it has taken.

Motion carried.

DOCTOR HAYNES: Mr. President, a doctor does not have to practice medicine very long until he has to witness the ordeal of seeing some one die, and this afternoon we have had a very peculiar sadness in the death of one of our co-workers, and I understand he enjoys a good reputation in this town, both as a Mason and as a citizen, and I think it would be very appropriate if the South Carolina Medical Association would order a floral design to be sent around to the home tomorrow. think it would show our appreciation and feeling for the doctor who died this afternoon, and I move that this Association order these flowers tonight, so that they will be here tomorrow.

Motion carried.

DOCTOR COWARD: Mr. President, I move that we express the thanks of the Association to the Committee on Entertainment with our appreciation of their anticipated entertainments, but that under

the circumstances we confine ourselves to the business of the Association.

Motion carried.

DR. D. L. SMITH: I would like to offer a motion, that the Secretary instruct other towns that invite us that we limit our amount of entertainment and devote ourselves more to business rather than to be entertained by the towns we visit; and, also, limit the number of our welcoming addresses.

Motion seconded.

THE SECRETARY: Mr. President, I know the feelings of the Association in regard to this, and I have visited the various towns before the meeting, and we feel that on this occasion we acted very conservatively, and it is generally put up to them, as the Committees will tell you.

Motion carried.

DOCTOR SYMMES: Mr. President, if I am not out of order, I would like to suggest a name for honorary membership. This old doctor that I have in mind I would like to make a few remarks about his life. He graduated in the year of 1852, served six months as surgeon during the Civil War, he is now eigthy-six years of age, and has retired from the practice of medicine. He is Dr. Wm. L. Pou.

Seconded by Doctor Smith.

DOCTOR SMITH: I think that Doctor Pou had the distinction of delivering four children at one birth, and I would like to second the motion.

Motion carried.

DOCTOR COWARD: I do not think any committee was appointed by the chair this afternoon on the matter of the Norwood memorial.

THE PRESIDENT: I will appoint on that Committee:

Doctors Coward, Gambrell, and Neuffer.

DOCTOR COWARD: Then, I will ask the members who desire to do so, to make their contributions at room 420, Oregon Hotel.

DOCTOR HINES: I wish to read the following telegrams:

B14D. BN. 11-Paid 1 Extra. 4-20-15.

Cheraw, S. C., 20th.

Dr E. A. Hines,

Greenwood, S. C., 2:37 P. M., Chesterfield County Medical Society reorganized today. President, L. E. Bull.

T. E. Wannamaker, Jr.,

Secretary.

10AN N 47 Blue 4 Bx.

Mobile, Ala., April 21, 1915.

South Carolina Medical Association,

Greenwood, S. C.

The Southern Medical Association sends greetings. Hope that you are having the most successful meeting you have ever had. We hope there will be a very large delegation of South Carolina physicians at our Dallas meeting in November. A warm welcome will await you.

Southern Medical Association, Seale Harris, Secretary-Treasurer.

12:55 P. M.

THE PRESIDENT: I do not know that that implies when the delegate has left the city, and I will ask what the House desires in regard to Dr. M. H. Wyman as a delegate from Columbia.

It is moved and seconded that Doctor Wyman be accepted as a delegate from Columbia, vice Doctor Bunch.

Motion carried.

ELECTION OF OFFICERS.

The Secretary reads the list of delegates. Upon motion, Dr. A. H. Brown, delegate from Lee County, allowed to be seated.

THE PRESIDENT: Forty is the voting strength, according to the computation of the Secretary.

Nominations are in order for the office of President.

DOCTOR WARD: I would like to place in nomination the name of a friend—a physician who stands in the front rank of the physicians of South Carolina, and who is universally liked wherever he is known—Dr. F. H. McLeod, of Florence.

DOCTOR BURDELL: I take pleasure in nominating for President a man who has been a member of this Association for twenty years, who has served on the Council for probably six years—a man about whom it is unnecessary to say anything further—Dr. G. A. Neuffer.

Seconded by Doctor Walker.

DOCTOR OUTZ: Doctor Neuffer has been a faithful worker for many years. He is well qualified for the office and I am sure the work he will put into it will be of incalculable benefit to the State Medical Association.

Doctor Tripp and Dr. D. L. Smith appointed to act as tellers.

| Vote c | ast as follows: |
|--------|-----------------|
| Doctor | McLeod 14 |
| Doctor | Neuffer 26 |
| | |
| | Total 40 |

Doctor Neuffer declared elected President of the Association.

Upon motion, Doctors Beard and Vincent, of Laurens, seated.

FIRST VICE-PRESIDENT.

Doctor Epting, of Greenwood, nominated by Doctor Timmerman.

Seconded by several.

Upon motion of Doctor Earle, Doctor Epting elected First Vice-President, by acclamation.

SECOND VICE-PRESIDENT.

Doctor Burdell nominates Dr. H. L. Shaw.

Doctor Shaw declines the nomination.

Doctor Coleman nominated.

Doctor Timmerman nominates Dr. J. J. Cleckley, of Bamberg.

The President appoints Doctors Burdeil and Vincent to act as tellers.

DR. S. C. BAKER: Mr. President, I move that the man who receives the highest vote be elected Second Vice-President, and the other, Third Vice-President.

Motion carried.

Vote cast as follows:

Doctor Coleman 5

Doctor Cleckley 28
Doctor McDowell 1

Doctor Cleckley declared elected Second Vice-President and Doctor Coleman, Third Vice-President for the ensuing year.

SECRETARY-TREASURER.

Doctor Burdell nominates Doctor Hines to succeed himself.

Seconded by several. Moved that rules be suspended and the President cast the unanimous ballot of the Association for Doctor Hines as Secretary-Treasurer.

Motion carried.

THE PRESIDENT: The Chair takes great pleasure in announcing the unaimous election of Doctor Hines for Secretary-Treasurer for the ensuing year.

(Applause.)

COUNCILORS.

First District.

Dr. Harry Wyman nominates Dr. A. E. Baker, of Charleston.

Doctor Burdell moves that the nominations be closed and that the Secretary cast the unanimous ballot of the Association for Doctor Baker for Councilor from the First District.

Motion carried.

Third District.

Doctor Gambrell nominates Doctor Bailey, of Clinton.

Seconded by several.

Doctor Burdell moves that the nominations be closed and that the Secretary cast unanimous ballot of the Association for Doctor Bailey.

Motion carried.

Fifth District.

Doctor Burdell moves, as a delegate from the Fifth District that Doctor Walker be re-elected to succeed himself, and that the Chair cast the unanimous ballot of the Association for Doctor Walker.

Motion carried.

Seventh District.

Dr. L. H. Jennings, of Bishopville, nominated.

Doctor Earle nominates Dr. S. C. Baker, of Sumter.

Vote as follows:

 Doctor Jennings
 13

 Doctor Baker
 28

 Doctor Williams
 1

Doctor Baker is elected from the Seventh District.

EXAMINERS.

First District.

Doctor Ward moves that all of the four gentlemen whose terms expire be nominated to succeed themselves.

Objection by Doctor Timmerman.

Doctor Burdell nominates Doctor Taylor to succeed himself.

Upon motion, nominations closed and the Chair casts unanimous ballot of the Association for Doctor Taylor for member of the Board from the First District.

Third District.

Doctor Outz nominates Dr. John Lyon to succeed himself.

Seconded by Doctor Earle.

Doctor Burdell moves that nominations be closed and that the unanimous vote of the Association be cast for Doctor Lyon.

Doctor Lyon declared elected.

Fifth District.

Dr. E. W. Pressly nominated to succeed himself.

Upon motion, nominations closed, and Doctor Pressly elected.

Seventh District.

Doctor Ward nominates Dr. J. J. Watson to succeed himself.

Seconded.

Vote of the Association cast for Doctor Watson.

NEXT PLACE OF MEETING.

DR. FRANCIS PARKER: Mr. President, on behalf of the Medical Society of South Carolina, the Charleston County Medical Society, I take pleasure in inviting this

Society to hold their next meeting in Charleston, and we assure you of our heartiest welcome. It has been some time since the Association met in Charleston, and as the Medical Society has recently been reorganized, I trust that the Association will accept our invitation, and the citizens and the profession stand with open arms to greet you.

DOCTOR EARLE: I move that this Association accept unanimously the invitation of Doctor Parker.

Motion carried.

Meeting to take place the third Tuesday in April, 1916.

Upon motion, the House of Delegates stands adjourned.

BOOK REVIEW

PATHOLOGICAL TECHNIQUE.—Including directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School; and J. H. Wright, M. D., Pathologist to the Massachusetts General Hospital. Sixth edition, revised and enlarged. Octavo of 536 pages with 174 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth \$3.00.

The author of this volume has a national reputation as an investigator and writer on this particular subject. The Hospitals of Boston furnish an invaluable source of material for such a bock. The illustrations are particularly numerous and instructive, and represent the author's original work as a rule. The make-up of the book from the publisher's standpoint is most excellent, and we heartily commend it to the would-be-purchaser.

INTERNATIONAL CLINICS.—A quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynecology, Opthalmology, Otology, Rhinology, Laryngology, Hygiene, and other Topics of Interest to Students and Practitioners. By leading member of the Medical Profession throughout the world. Edited by

Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A., Volume II. Twenty-fifth Series, 1915

This is a most excellent resume of the literature of the past year. These volumes are especially well bound and, therefore, serve the purpose of permanent reference libraries of a high order.

GENERAL SURGERY—THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in Medicine and Surgery. Under the General Editorial Charge of Charles L. Mix, A. M., M. D. Robt. T. Vaughn, Ph.B., M. D. Volume II. General Surgery. Edited by John B. Murphy, A. M., M. D., LL.D., F. R. C. S., England (Hon.) F. A. C. S. Series, 1915. Price per Volume, \$2.00 Price of the Series of ten volumes \$10.00. The Year Book Publishers, 327 LaSelle St., Chicago, Ill.

Dr. John B. Murphy is the Editor-in-Chief of this volume and his strong characteristics are dispersed from cover to cover. There are many illustrations, and the entire work is creditable both to the compilers and the printers.

GENERAL SURGERY—THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in Medicine and Surgery. Under the General Editorial Charge of Charles L. Mix, A.

M., M. D. Volume I. General Medicine. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A. M., M. D., Professor of Medicine, Illinois Post-Graduate Medical School. Series, 1915. The Year Book Publishers, Chicago, 327 LaSalle Street, 1915, \$1.50. These year books serve a most useful purpose as ready reference works and continue to be justly popular. This one has been edited by Billings and Salisbury.

DISEASES OF INFANTS AND CHIL-DREN—The New (4th) Edition, Revised. —A Manual of Diseases of Infants and Children. By John Ruhrah, M. D., Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore, Md. Fourth Edition, Thoroughly Revised. 12mo volume of 552 pages, 175 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

This is an excellent manual designed for the medical student and rapid reference work for the general practitioner, yet it is a book of 550 pages and contains a great deal of valuable information.

The illustrations are numerous and practicable. This is the fourth edition in nine years, which speaks well for the popularity of the volume.

THE CLINICS OF JOHN B. MURPHY, M. D. Volume IV. Number II (April, 1915).—The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume IV. Number II (April, 1915). Octavo of 197 pages, 47 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year: Paper, \$8.00, Cloth, \$12.00

Contents.

Murphy's Clinical Talks on Surgical and Diagnosis.

Bony Lipping of the Right Acetabular Margin and of the Neck of the Femur Following a Metastatic Arthritis—Athroplasty of the Hip—Cheilotomy.

Carcinoma of the Breast.

Carcinoma of the Colon—Diffuse Miliary Carcinosis of the Peritoneum—Exploratory Operation.

Epithelioma of the Upper Lip Starting in an Old Pupus Scar—Excision, Plastic Closure.

Intramular Fibroid of the Uterus—Diagnosis—Hysterectomy.

Hypertrophy of the Prostate—Urinary Retention and Self-Catheterization—Cystitis, Periprostatitis, With Multiple Abscess and Fistula Formation—Perineal Prostatectomy.

Spontaneous Massive Coagulation of Cerebrospinal Fluid With Xanthocromia— Its Significance in the Diagnosis of Lesions of the Spinal Cord and Its Membranes.

This volume is especially valuable for the articles on Osteomyelitis and Cancer of the Breast. The article on Cancer of the Breast is by Professor Rodman, President of the American Medical Association, and embodies a lecture delivered at the Murphy Clinic.

SURGERY OF THE BLOOD VESSELS .-

By J. Shelton Horsley, M. D., F. A. C. S., Surgeon-in-Charge of St. Elizabeth's Hospital, Richmond, Va.; A Founder and Fellow of the American College of Surgeons; Ex-President of the Richmond Academy of Medicine and Surgery; Member of Southern Surgical and Gynecological Association, etc. Illustrated. Cloth, Price \$4.00. C. V. Mosby Company, 1915.

This is new work just off the press by an eminent Southern surgeon. Doctor Horsley has spent many years in working out the principles of blood vessel surgery. We were particularly interested in the history of the subject as outlined by him. It would appear that the technique as developed by Doctor Horsley is very simple and, therefore, should become common practice. The chapter on hemorrhage should appeal to every doctor, and the chapter on varicose veins concerns every general practitioner. The chapter on Thrombosis and Embolism is applicable to every-day practice. illustrations are very clear and really teach something. The printing and make-up of the book generally is highly commendable.

The subjects are as follows:

The Structure and Histologic Repair of Blood Vessels.

The Indications for Blood Vessel Suturing.

History of Blood Vessel Surgery.

The Technique of Suturing Blood Vessels Lateral Anastomosis of Blood Vessels, and Reversal of the Circulation.

Transfusion of Blood.

Hemorrhage.

Pathologic Hemorrhage.

Thrombosis and Embolism.

Treatment of Occlusion of the Masenteric Blood Vessels; Resection and Transplantation of Intestine.

Aneurisms.

Arteriovenous Aneurisms.

Tumors of the Blood Vessels.

Varices; Varicose Veins, Varicocele, and Hemorrhoids.

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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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Eye, Ear, Nose, and Throat.

E. W Carpenter, M. D., Greenville, S. C.

EDITORIAL

Our Cancer Number.

There has been a gratifying response to the request of the House of Delegates that the County Societies have Cancer Programs at least once during June and that the July issue of The Journal be a Cancer Number. As has been set forth several times this is a part of a nation-wide campaign in the interest of prevention and early treatment of Cancer. The above action was taken on the initiative of the Cancer Commission of the Medical Society of the State of Pennsylvania.

An unbiased review of most of the articles in the literature in recent

years places much of the responsibility on the physician who first sees these cases for the high mortality. That is, these patients often do not get the benefit of a thorough examination. Again there is ample evidence that in a large majority of the cases the patient has not sought the physician early enough. Such a campaign, we trust, will prove effective in calling sharply to the attention of both the physician and the laity the urgency of immediate action in suspicious cases. We republish a most excellent editorial by one of our associate editors, which by an oversight appeared last month. will bear repetition several times.

CANCER.

These facts: 75,000 victims a year from this cause! One woman in eight, after 35 years of age dies of it! disease local to begin with, and curable if treated radically as soon as recognized, or even suspected: ought to make us alert in our examinations of patients. That radical treatment is the only way to reduce the mortality from cancer all are agreed; but the late stage in which it is undertaken is still the reason why better results are not obtained. Is it possible that the ulcer on lip, skin, or elsewhere refusing to heal may be malignant? Can the vague stomach symptoms persisting in spite of a course of treatment lasting from one to two months, be induced by a beginning cancer? The blood from the rectum, is it caused only from hemorrhoids? The brownish vaginal discharge, what produces it? Hematuria may mean a malignant growth in the kidney, bladder, or prostate. The swelling over a bone which follows injury and which does not subside when we think it should—does it occur to most of us that we must exclude a malignant process before we can say it is anything else? How many cases are we actually treating in which we have not made a thorough examination with the idea of cancer in mind? It is not that we do not know, but that we do not look, which explains why our patients, when the consultant, or some other physician finds cancer, may have had the discovery made too late for radical measures to be curative. For no matter how thorough the operative work is done, it may then be too late.

The three organs most affected by cancer are, in order of frequency, stomach, breast, uterus. Suppose we could anticipate cancer in them alone: we would reduce the mortality over 60 per cent. And, excepting in the stomach, we can easily make visual examinations of these other organs. As to the stomach, early signs must still impel to exploratory operation until we have more definite diagnostic Suppose we are in information. doubt. Is it not wise to have a piece of tissue excised for microscopic examination and then operate according to the findings? Again, if the specimen examined is suspicious of malignancy. a pre-cancerous condition, radical procedure is indicated; for it has been shown that 80 per cent of recoveries occur when operation is done at this stage. Doctor Bloodgood's statistics amply justify this conclusion.

The literature on cancer, its symptoms, signs, and diagnosis, is abundant. To go into the subject here would be useless. Who wants to inform himself can easily do so. The lump in the breast should be treated as an acute condition. The ulcerated cervix other mucous membrane—regard it in the same way. The digital, and if necessary, proctoscopic examination of the rectum, cystoscopic examination of the bladder, inspection of the larynx, X-Ray investigation of the gastro-intestinal tract: these, and other means -all valuable-are at hand for us to use if we will. If we fail to recognize cancer, it can be truly said of us as physicians: "Eyes have they, but they see not."

So much for its recognition. How can we induce patients to submit to frequent examination and early operation? This phase of the cancer question is quite as important as the other, if we are to effect cures. It is our duty to teach, to point the way to knowledge. We can get it for ourselves, our families; why not for the community? The public meetings held in some of our large cities should be repeated in every town in America.

The American Society for the Control of Cancer (289 Fourth Avenue, New York), publishes information which any one can secure; the Life Extension Institute of New York (25 West Forty-fifth Street), a society formed and supported by some of the most influential citizens and widely known physicians of the United States, for the frequent examination of insurance policy-holders, are two organizations whose work in education is excellent.

During this vacation period, public gatherings are to be held in urban and rural communities for church and other social purposes. Why not have them addressed by a physician on the subject of cancer-prevention? Women's Clubs, also can, and should undertake this work. It is pre-eminently a field for their efforts. We must have their support in this, as in all other educational endeavor.

Early Diagnosis and Prevention of Cancer.

Possibly no disease has received the undivided attention of so many earnest and competent workers as has Cancer. A review of the literature on this subject will reveal the names of some of the master minds in medicine, minds that have attacked the problem, grappled with it, accumulated interesting and important facts that may ultimately find their explanation in the work of others, but finally have yielded up the struggle with little more of an end result than the evolution of a theory, or the frank acknowledgement of a failure to find the cause of this elusive malady. From this vast maze of work we emerge today with the realization that the etiology of human cancer is beyond our ken, that consequently preventive medicine is to a large extent denied its application, and that clinical medicine must rely in the main upon early diagnosis, and the complete eradication of an incipient disease.

Among the factors that have been suggested as playing a part in the production of neoplastic growths may be mentioned:

- 1. Heredity.—Though much has been written upon the relationship of heredity to cancer, and many suggestive instances of the occurrence of the disease in several members of a family have been cited, the evidence is insufficient to allow of definite conclusions. Certainly striking coincidences do occur, so strikingly at times as to be almost convincing, and the inheritance of a "constitutional predisposition" is recognized by many able workers. In this connection Warthin cites several families that exhibit a marked hered. ity tendency to cancer. His charts show the incidence of the disease in these groups to follow closely the Mendelian law of heredity. He finds that the susceptibility to cancer is much more marked in the children when both of the parents have suffered from the disease, and notes that the disease appears earlier in life in such offspring, and seems to be of increased malignancy.
- 2. The Theory of Cell Autonomy.—
 This idea which was first systematically promulgated by Conheim is too well known to permit of more than passing comment. Suffice it to say that it goes far toward the explanation of the pathology of malignant disease, but falls short from the etiologic standpoint. As pointed out by Ewing (2) the glaring deficiencies in this theory lay in the assumption of the existence of embryonal cells without their demonstration and failed to explain why such cells should suddenly take on neoplastic tendencies.
- 3. The Parasitic Theory.—The study of cancer among certain of the lower animals has led to the suggestion that

the disease may be of infectious origin. With the exception of an epidemic thyroid cancer that has been observed among salmon, it may be said that evidence of this kind will not stand the test of analysis. But the idea has been developed in full by research workers and organisms of almost every type have been listed from time to time as "cancer parasites." The organism groups listed by Ewing in this connection are:

- a. Bacteria.
- b. Coccidia.
- c. Sporozoa.
- d. Blastomycetes.
- e. Mycetozoa.
- f. Spirochaetae.

Needless to say, the claims of these animal parasites have been found to rest upon insufficient grounds, and the temporary significance gained by each has gradually dwindled. Of far more significance in this connection is the recent work of Rous (3), of the Rockefeller Institute, who has succeeded in demonstrating a filterable virus as the causative agent of a type of malignant growth in chickens. The possibilities suggested by this work loom big in the field of cancer research today, and it is not too much to hope for valuable information concerning the etiology and principles of immunity incident to new growths.

Another line of research that is pregnant with possibilities in its relation to the cancer problem is that initiated by Carel in the artificial cultivation of fibrous tissue. Uhlenmuth (6) has recently reported the successful cultivation of the skin epithelium of the frog. By such means we may ultimately gain a first-hand knowledge of the habits of growth and the conditions modifying various types of tumors.

In the absence of more definite etiological information, clinical workers have ever been hopeful of aids to the diagnosis of cancer, realizing that every malignant growth is at some time in such a stage that its complete removal can be accomplished and metastases prevented. The customary symptoms and physical signs of these conditions are well recognized, but of equal certainty is the realization that their appearance is too often synonymous with fatality. It is of interest to review briefly some of the chemical and biological tests that have been suggested in the hope of making an earlier diagnosis possible.

- 1. Skin Reaction.—More or less empiracally the haemolysis of human red blood corpuscles by a cancer host was suggested as a diagnostic aid. Lisser and Bloomfield (7) have given this method a thorough trial, adopting a more exact modification of the original technique. This modification consisted in the use of none other than those corpuscles of Moss's fourth group (i. e., those corpuscles that were neither agglutinated nor haemolyzed by the sera of groups L, LL, or III.) Onethird to one-half cc of a 20 per cent suspension of these corpuscles is injected subcutaneously. A positive reaction appears in from 3 to 5 hours as an elevated area of induration with discoloration dependent upon haemolysis. They conclude that a negative reaction is of little or no value in excluding cancer, but feel that a positve reaction is strong presumptive evidence of the existence of the disease.
- 2. Meiostagmin and Epiphanin Reactions.—In his studies of this test Burmeister (8) concludes that the meiostagmin reaction, or Ascoli's test, has a greater negative than a positive value. He finds that positive reaction is in no sense specific. The epiphanin reaction he considers valueless as an aid to the diagnosis of cancer.
- 3. The Salmon-Saxl Test.—This empiracal urinary test is "too good to be

true." It is a urinary reaction based upon the assumption that in cancer patients there is a sulphur body in the urine which does not yield inorganic sulphur upon treatment with dilute hydrochloric acid, but which upon subsequent treatment with hydrogen peroxide is oxydized with the liberation of inorganic sulphate. The originators of this test report 70 per cent positive reactions in carcinoma cases. But we are disappointed to find that other workers, e. g., Greenwald (9), find the test of no value.

- 4. The Glycl-Tryptophan Test.—In view of the known proteolytic enzyme content of malignant tumors, the announcement of the test for gastric carcinoma was looked upon with much favor. Weinstein (10) enthusiastically announced for it. But it was soon found that the gastric washings of perfectly normal stomachs contained an enzyme that could readily break down this bipetid into its constituent parts, and another hope was dispelled.
- 5. Abderhalden's Test.—Since the announcement of Abderhalden's specific ferment test for pregnancy there is scarcely a body protein that has not been declared as capable of generating or exciting its specific ferment when foreignly introduced into the host. Some observers have gone so far as to state that the reaction can specifically differentiate between diseases of the stomach, the duodenum, different parts of the small intestine and the large bowel, simply through testing the ferment action of the patient's blood upon these tissues. The technical difficulties of this test are great, and the discrepancy in results may be explained to some extent upon this basis. This is suggested by Brofenbrenner (11), who believes in the specificity of the reaction of the test after careful trial. But Jobbling, Eggstein, and Petersen (12) state that theoretically

the principles enunciated for the test are out of accord with the recognized laws of ferment action. They also point out that there is a normal protease content of serum that automatically robs the test of specificity. In their application of the reaction to cancer, tuberculosis, and pregnancy they find that no specific action is obtained. Whatever the future may demonstrate of value in the Abderhalden test as applied to the diagnosis of cancer, the present leaves us in disappointment.

- 6. The Incoagulable Nitrogen in Puncture Fluids.—The basic principles involved in the glvcl-tryptophan test for gastric carcinoma have been applied in the differentiation of effusions from serous surfaces as dependent upon malignant or non-malignant disease. The proteolytic activity of malignant growths should theoretically vield a higher percentage of those simple nitrogen-containing bodies that are incoagulable than would be found in other conditions. With this idea in view, Morriss (13) has reported a small series of cases, and tentatively advances the following suggestions: On the basis of the incoagulable nitrogen content, puncture fluids may be divided into three groups:
- I. Incoagulable N. 0.0699 gm. per cent or less. Probably not malignant.
- II. Incoagulable N. 0.07 to 0.0899 per cent. Strongly suspicious.
- III. Incoagulable N. 0.09 to 0.01 or more. Great probability.

Here again we may see signs of hope, but the evidence is not sufficiently extensive to allow of great dependence upon this aid at the present time.

After this rather pessimistic review of the clinical applicability of the greater part of recent investigations into the subject of malignant neoplasm, one may well ask, "in where

has progress been made?" The answer is that we, as clinicians, have gained but little as a direct result. But these workers have played a great part in stirring up the profession, and the laity as well, to a realization of the the doctrine of "precancerous lesions, importance of early diagnosis. Again, the doctrine of "precancerous lesions," the settled belief that all types of carcinoma exist at some time in a potential stage, and that the recognition and prompt removal of these potentially malignant growths will effectively prevent the development of a cancer, has stimulated the profession to increased assiduity in searching for such lesions and has made them more careful in the observation of warts, moles, keratoses, and sites of chronic irritation or inflammation. Doctor Bloodgood (14) has been a prominent advocate of this idea, and has been largely instrumental in its propagation. Another opinion that we may look upon as established is that chronic irritation (mechanical, chemical, physical, or infectious), bears a definite relationship to tumor growth.

In conclusion, we may say that in our clinical fight against cancer we must rely upon two defenses:

- 1. As early diagnosis as possible. This can be greatly furthered by educational campaigns among the public, persuading them to make suspicion the grounds for medical consultation in such matters, and urging them to give the surgeon the responsibility of deciding as to the potential malignancy of any lesion. In this phase of the subject we must keep constantly before us "precancerous lesions" and chronic irritations.
- 2. Radical Treatment.—The technical delimitation of this term must remain with the surgeons and must be based upon surgical experience.

ORIGINAL ARTICLES

CANCER OF THE FEMALE GENITAL ORGANS.

*By J. R. Young, M. D., Anderson, S. C.

of the Female Genital Organs, is such a big one that it seems well-nigh impossible to concentrate into a ten-minute paper even the essence of the modern teaching on this important subject.

That the subject is important has been impressed upon us by the paper of Doctor Townsend dealing with the broad subject, The Cancer Outlook, so

*Read before the Anderson County Medical Society, June 16, 1915.

I shall not dwell on this phase of the matter, but just for a moment let us take the statistics and applying the law of averages, let us see what the outlook is to us and our patients. For statistics, like religion, is of little value unless given a personal application. In the State of Michigan five per cent of all deaths are due to cancer. We will suppose that cancer is equally prevalent and fatal in South Carolina. The forty members of this Society serve in the capacity of family physician a population of some seventy thousand. Figuring that our death rate is about twenty per thousand, we are due to have in this county this year about fourteen hundred deaths. Seventy of these deaths will

be due to cancer and about thirty will be due to cancer of the breast or uterus. And, bringing the subject a little closer home, if the above statistics hold true in our county during the coming year the wife of some one of us will probably die of cancer.

If this be the outlook, we all readily agree that the subject is of vital importance to us as physicians, and to us as husbands and fathers. But, after admitting the importance of the subject, what are we going to do about it? No one of us dares hope that any specific drug or serum is going to be announced to the profession during this month when medical societies in all sections of the United States are holding cancer meeetings. So far as I know there has been no discoveries in recent years in the realm of cancer research that would justify us in assuming a more hopeful attitude as to the ultimate success of the workers in this field of perfecting a serum or vaccine that would cure cancer. It is gratifying, however, to know that success has not been despaired of and that a great volume of cancer research work still goes on. The benefits of these cancer meetings will, in my opinion, come from the general and wide spread and emphatic impression on the minds of the profession that every cancer during some stage of its development is purely local and entirely curable. When we absolutely believe and systematically teach the doctrine of the curability of cancer during its early stages the public will not be long in adopting the same views. When this opinion does become general—as it is fast becoming in case of tuberculosis—there will be developed that spirit of co-operation between the doctor and his patient which is essential in making early diagnosis of cancer. And so we take part in this program today not with the idea of presenting any new truths, but to study together how we may more certainly and more regularly make earlier diagnoses of cancer.

The infrequent cases of cancer of the external genitals, ovaries, and tubes will not be mentioned, but our remarks will be confined to cancer of the uterus and breast, and more especially to diagnosis of cancer in these organs.

The diagnosis of cancer of the uterus is made upon (1) clinical history; (2) local findings in examination. clinical history in the average case is somewhat as follows: A woman nearing the menopause (usually) notices stain following exertion slight (straining at stool, coitus, trauma incident to taking douche). This occurrence repeats itself occasionally, but probably is associated with a leucorrhea or an increased leucorrheal flow. This flow may not differ in character from the ordinary mucus leucorrheal discharge but is frequently thinner, leaves a sanguineous stain, and is irri-These symptoms are usually interrupted by the unexpected appearance of a free, intermenstrual uterine hemorrhage. If patient has not passed change of life she will begin to show an increased flow at each period, but the outstanding, characteristic, and suspicious symptom is the sudden between-period hemorrhage. If patient has passed the change of life and the above symptoms develop, this post-climacteric hemorrhage, will in ninety-five per cent of cases, be due to carcinoma. But the patient, especially if she be "passing through the change," will not be alarmed at this knowledge because she will explain to herself and friends that she experienced no pain. She does not know—and frequently her physician does not think to tell her—that cancer in its early stages is not painful. She does not know that

if she waits until she has developed the so-called cancer pain she will have waited till the cancer has spread to surrounding tissue and is no longer a local infiltration amenable to surgical relief, but has become a phagedenic pressure producing, and a pain-resulting monstrosity whose ravages none can stay. If the patient decides to wait or is advised to wait until the classical cancer pain develops she will, in the meantime, have begun to loose weight and to develop that ante-mortem discoloration known as cachexia. Likewise a pyogenic or saphrophytic infection will have occurred resulting in that abhorent stench which was once considered pathognomonic of uterine cancer.

If the patient does take seriously the early symptoms and at once calls in her physician local examination will reveal no cervical cancer: A cervix (almost certainly torn at parturition) that is enlarged, glazed looking, with possibly minute teat-like processes extruding. The cervix will feel hard, incompressible, undilatable and will impart to examining finger a friable sensation. But the cervix and whole uterus will be movable, as the cancer in this stage is an infiltration and has not spread to surrounding tissue. At a later period examination will reveal a broken-down condition of this cancer infiltrated cervix. Its normal contour will be gone and an excavated ulcer present. This cancerous ulcer spreads out on the vaginal vault: laterally, by way of lymphatics, through broad ligaments. In a few months the bladder in front and rectum behind become involved. As has been frequently pointed out cancers of the cervix grow faster, spread to wider limits, and are more prone to metastasize than are cancers of uterine fundus, owing to fact that lymphatics are more abundant in cervical region.

In carcinoma of the body or fundus early examination will reveal a uterus somewhat enlarged, slightly tender, and imparting on bimanual examination a gristle-like resistance at cervico-corporal junction. Such findings are not, however, definite enough to make diagnosis—and a patient having clinical history suggestive of corporal cancer should have the benefit of microscopic examination of scrapings secured by curretage, provided the services of a competent pathologist are available.

A few words as to differential diagnosis. In the majority of cases a correct diagnosis can be made early if a careful history is taken and a careful examination is made. However, in patients during the active child-bearing period and patients nearing the menopause the diagnosis between fibroids and carcinoma may be difficult. In uterine fibroids the menstrual disorder usually has the following sequence: (1) an increase in the quantity of regular monthly flow; (2) increase in duration of regular flow: (3) further increase in duration of flow until periods become well-nigh or quite continuous. These changes usually extend over a number of months or years, causing maximum effect near time of menopause, and frequently postponing latter for several years. The absence of sudden intermenstrual flow speaks strongly for fibroids. When fibroid patients come to late menopause, flow suddenly stops and never returns. A patient still menstruating at fifty-five has ninety per cent probability of fibroids. (Murphy.)

Another condition that may be mistaken for cancer of the cervix is "erosion" of the cervix accompanied by menorrhagia. Kelly states that this turning out of the cervical mucosa is a torn cervix and its subsequent inflammation is frequently mistaken for can-

cer. In this condition though the cervix is not hard, the longitudinal striae of the mucosa still show,—and the shot-like nodules are retention cysts of nabothian glands and on puncture yield a mucilaginous substance. So this error is never liable to be due to incomplete examination.

The diagnosis of the cancer of the breast will only be mentioned. When we recall that only about 15 per cent of breast tumors are benign, the differential diagnosis is not so important. Any woman who has a small, hard lump in her breast should be considered as having cancer unless it can be proved otherwise. If we wait till nipple is retracted, till lump becomes attached to skin and chest wall, till bloody discharge from nipple appears and axillary glands become enlarged before making diagnosis we will rob our patient of a four-to-one chance of getting well through an early operation, and give her a four or five or even ten-to-one chance of dying in spite of the most radical late operation. So prone are late breast cancers to metastasize that Murphy says he has never known a fat patient of about forty years operated for breast cancer who did not ultimately die a cancer death.

Cases of so-called Paget's disease characterized by a serous or sanguineous discharge from nipple with a resulting eczematous condition of skin surrounding nipple are now thought by Murphy, Rodman and others to be milk duct cancers that are prone to early matastasis and, therefore, demand early and radical operation. Likewise cases of chronic cystic mastitis or abnormal involution due to fibrous and glandular hyperplasia with ultimate formation of retention cysts in about one-fifth of cases terminate in malignancy. Such cases are usually curable by the application of proper anti-phlogistic measures, but if the condition resists all such treatment, radical operation is advised.

As to treatment various drugs have been recommended in uterine cancer methylene blue, acetone, thyroid extract, trypsin, and others-but none have proven of permanent value. X-Ray treatment and later radium therapy have been extensively used, and have been shown to be valuable aids in treatment of uterine and breast cancer, but even these agents are not considered curative. The experts at the Radium Institute and Cancer Hospital, of London, never speak of radium as a cure of deepseated cancer, and they will not administer it to a patient who is still in the operable stage. But they have found radium and the X-Ray very helpful in inoperable cancer and many surgeons advocate post-operative radium and X-Ray treatment.

The remaining treatment, early and radical removal of cancer by surgical operation, has the endorsement of the world's greatest surgeons as being the best treatment for cancer of the uterus and breast. Both of these operations even in the hands of the most expert still have a high mortality, but this is decreasing as operations are becoming more radical. However, the most marked improvement in mortality has resulted from the early operation. As pointed out by Gaylord the reason for advising the early operation is based not alone on the idea of removing the entire growth, but upon the fact that in the early stages processes of immunity are active. Whereas in the late stages immunity is weak and radical operation at this time often hastens death. Now this raises the questionwhen is cancer early or incipient? This cannot be answered in a dogmatic way because the propitious day for operation will vary with the type of cancer, age of patient, location of tumor, etc. For instance, in medullary breast cancer, metastasis occurs earlier than in the scirrhus type; in fat women metastasis will occur earlier than in sparelybuilt women; in the young cancer grows more rapidly than in the old. Winter, of Konigsburg, claims that it is possible and practicable to secure uterine cancer cases for operation within six or eight weeks after appearance of first suspicious symptoms, and in a small series of cases where this was done over seventy-five per cent of cases were operable, whereas in this country the uterine cancer cases appearing at some clinics are about ninety per cent inoperable.

Rodman says that in breast cancer axillary glandular involvement may be expected within one year. Radical breast amputation before glandular involvement occurs should, he says, give seventy-five per cent cures, whereas late operations give only about fifteen per cent cures.

Again, cancer of the fundus grows more slowly and metastasis occurs later than in cervical cancer, so that in the former radical operation should give seventy-five per cent cures, while in the latter not over twenty-five per cent are cured. Experience has taught that cervical cancer may in from one to six months from time of first symptoms pass beyond operable stage. So it seems impossible to proscribe the time during which cancer may be called early. But since all the accumulated evidence goes to show that the early operation gives the patient the best chance of recovery it is up to us to lend our best endeavors in making the earliest possible diagnosis and to explain to our patients that a policy of watchful waiting is suicidal.

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THE IMPORTANCE OF THE EARLY DIAGNOSIS OF UTERINE CANCER.

*By C. R. May, M. D., Bennettsville, S. C.

THE subject of this paper is one that is very old, and has been much written of and discussed, but very little has been done by the general practitioner by whom most of these cases are first observed, and although I have always recognized the importance, it has never appealed to me so forcibly as in the past twelve months, during which time I have had six cases, and because most of the cases of cancer of the uterus are so pitiful and hopeless. Four of these six cases, had never been examined, and came to me for their first examination, never dreaming that their trouble was a dreadful malignant disease, that was even then beyond human aid, and though in my judgment, they were hopelessly advanced, I advised a surgical operation, and they were promptly sent back as inoperable. Two of the six cases only lived a few months, the other four are dragging along a hopeless miserable existence.

Now, it is appalling to think that at the beginning this disease could have been cured. The disease is so insidious that when they were suffi-

^{*}Read before the Pee Dee Medical Association, December 9th, 1914. Also read before the Marlboro County Medical Society, at Bennettsville, June 24, 1915.

ciently concerned to have their first examination, it was even then too late. Most of these patients gave a history of having had irregularities of the menstrual function, backache, leucorrhea, etc., and had asked their physicians to prescribe, had taken medicines and used douches, going to several different physicians, and finally in despair consented to an examination.

Now this state of affairs should be stopped, and we can never stop it until we can put cancer on the list of preventable diseases, by educating the people and instructing them along the lines of prevention. Some one has said, and I agree with them, "That no physician should prescribe for uterine disorders without first making a careful examination." Now, I am well aware of the fact that we cannot always get the patient's consent, but we could tell them the horrors of malignant disease, and impress upon them the danger of delay, that sometimes the earliest examination is too late, and refuse to prescribe more than once without it.

I recall a patient who came to me to prescribe for a slight flow that came on about ten or twenty days after her regular menstrual period had ceased. She said that she had had this slight flow between her regular menses for several years, and had taken various kinds of medicine without benefit. I explained to her that she had very likely taken the best of remedies usually prescribed for correcting such conditions, and that it was necessary for her to have an examination to understand the condition—she did not consent-said she had never been examined, and had taken medicines at times from three different physicians, and that only one had suggested an examination. I explained that it was the only way we could tell the exact condition and that prescribing without knowing was simply a guess-and since she had been treated so long without an examination. I was not willing to prescribe unless she allowed it. She still refused, but came back some four months later, saving she was alarmed about her condition and was willing for the examination. I found a mucus polipi about as large as my thumb extending by a pedicle from the inside of the cervix into the vagina, and when it became engorged or congested with blood between the menses, it would bleed, and it was this bleeding that caused her trouble. It was an easy matter to twist the polipi on its pedicle, snip it off with seissors, and cauterize the stump, and it was well.

Now the point I wish to make in referring to this case is, that this lady had been worried with this irregularity for several years, changing from one doctor to another, and only the fear of something serious made her consent to an examination.

Now, I believe it is our duty to explain to the mothers, and through them their daughters, that disorders and irregularities of the menstrual function, leucorrhea, or a watery discharge, vaginismus, irritable bladder, etc., should be looked on with suspicion, and promptly reported to their physicians.

If we could all work together and tell them how dangerous it is to conceal such symptoms, and that delay in seeking advice might be too late—and if through knowledge or even fear they will consent to early examination, then and not till then can cancer of the uterus be placed on the list of preventable diseases, and thousands of women saved every year from death by one of the most horrible diseases they are subject to.

I will not say anything as to the symptoms or treatment of cancer of

the uterus, for all of you have recent text books, which agree that the cause of cancer is still unknown, but that in the beginning it is purely a circumscribed group of epithelium cells, which, if removed in time, is absolutely curable. Dr. Rufus M. Hall, of Cincinnati, says, "That the importance of careful supervision over woman regarding her sexual organs during the cancer period of life, which is usually stated as from 37 to 47 years, cannot be overestimated, and that the most trivial complaint, let it be a discomfort in the pelvis and back, associated with a little watery or leucorrheal discharge, or pruritus during this period, should be investigated at once, and patient should not be permitted to go four months, six months, or even a year without an examination to determine the cause of these symptoms." He also says, "That during the last five years, for every cause of cancer of the cervix coming under his observation early enough to justify the removal of the uterus, sixteen others came too late." We should all work together and fight this dread disease, try and arouse the mothers and overcome prejudice, ignorance, and false modesty, and give to the woman the knowledge that may save her or her offspring from a miserable life, and the certain death caused by neglect of early symptoms of this discase. I wish it were so that every married woman in our country could be reached in some way and be made to know the truth. It would help us to prevent the disease. If our State Board of Health had sufficient funds, they could get out a bulletin on this subject and mail to every married woman in the State, setting forth the importance of early diagnosis, and the means of knowing how to avoid the dangers of delay, etc. We should all be proud of the great work that is be-

ing done by our State Board of Health. and every doctor in the State should co-operate with them and influence their representatives to vote a larger appropriation so as to make it possible for them to do a still greater work in the future.

THE ORGANIZATION OF NATIONAL AND LOCAL FORCES IN THE CAMPAIGN AGAINST CANCER.

By Curtis E. Lakeman, Executive Secretary, American Society for the Control of Cancer.

THE AMERICAN SOCIETY for the Control of Cancer has recently urged that every State Medical Society take an active part in arranging meetings and in spreading among all members of the profession the latest knowledge of malignant disease. At the suggestion of the Cancer Committee of the Pennsylvania State Medical Society, many journals will devote their July issues to this subject. It has been pointed out that the American Society for the Control of Cancer might take this timely opportunity to state its view of the relations between the various bodies which are concerned in this campaign. The suggestion is welcome. If indeed a clear understanding can be reached as to the most effective division of functions and duties among the various organizations, National, State, and local, interested in this subject, a long step will have been taken toward the conquest of malignant disease, in so far as that ideal can be approached by the practical application of present knowledge.

The National Society.

The American Society for the Control of Cancer sets up no claim of priority or originality in preaching to the public the necessity of early recog-

nition and treatment of this disease. The organization was effected under the inspiration of numerous similar movements in this country and in Europe. From the first it has been inspired only by a sincere ambition to co-ordinate all existing forces into a single irresistable nation-wide effort to reduce the cancer death rate by imparting the necessary knowledge and inspiring the will to believe and act upon it. Those who direct the policy of the Society have no illusions that they are "called" above others to this They firmly believe that all task. sincere workers should unite in a single well considered national movement. If the present Society fails to meet the requirements of such a movement it must give place to some agency that will do so, leading the campaign against malignant disease with as conspicuous ability and success as the National Association for the Study and Prevention of Tuberculosis has directed the war on consump-

Relation to the Professional Societies.

While the Cancer Society found its first impulse in the work of a Committee of the American Gynecological Society, the movement was broadened at its very inception by the appointment of organizing delegates from the American Surgical Association, the American Dermatological Association. the Association of Pathologists and Bacteriologists and practically all the similar special organizations which met in Washington in May, 1913, as the Congress of American Physicians and Surgeons. Definitely launched in New York on May 22d, 1913, the movement received within a few months the official endorsement of the American Medical Association, the Clinical Congress of Surgeons, the Western and the Southern Surgical

and Gynecological Societies, and a number of sectional and State organizations. All these professional bodies have endorsed the design of the National Cancer Society as expressed in its Constitution:

"To disseminate knowledge concerning the symptoms, diagnosis, treatment, and prevention of cancer, to investigate the conditions under which cancer is found and to compile statistics in regard thereto."

Relation to Cancer Research.

It will be seen that this purpose comprises not only the conduct of an educational campaign but the gathering of information in regard to this disease. In what relation, then, does the Society stand to the various American Cancer research institutions and workers? The answer is that the Society does not contemplate the prosecution or support of biological research, already so ably pursued under the auspices of our leading universities. With these workers in the field of pure science mutually helpful relations have developed. Indeed a notable collective expression of their attitude is regarded as a very cornerstone of the educational movement. A few years ago the eminent laboratory students placed on record in the transactions of their offical organization, the American Association for Cancer Research, their conviction that pending the discovery of the ultimate nature and cause of cancer, a far more effective dissemination and utilization of the vast store of present knowledge of the disease is urgently called for. Formed to carry out this very object the "Control" Society depends upon the constant support and co-operation of the institutions represented in the "Research" Society. Many of the foremost American students of cancer are prominent in the membership of

both organizations. Machinery is thus provided for the wider dissemination among the profession and the people of the essence of the newest knowledge of malignant disease, fresh from its laboratory sources.

Relation to Statistical Investigations.

The Society does, however, contemplate original work in the collection and collation of statistical data, and will expend this feature of its program as fast as its resources permit. statistics of cancer mortality need to be improved both as regards their collection and their publication. merest suggestion by the Society to the U.S. Census Bureau has been sufficient to initiate a notable advance in this respect. With the greatest possible interest and zeal, Mr. Harris, the late Director of the Census, and his successor, Mr. Rogers, have undertaken the preparation of a special report on the cancer mortality of the U. S. Registration Area in 1914. The number of deaths will be stated in full detail under some thirty titles of organs and parts of the body affected, instead of, as hitherto, merely under the six general groups of the International List. The Imperial Cancer Research Fund has long urged that it is only on the basis of such detailed data for the various organs that a true conclusion can be reached as to whether or not cancer is increasing. For the first time in the United States the data will now be at hand, as it is in England and Wales, through the reports of the Registrar General, for the prosecution of such inquiries.

The Census Bureau will also for the first time in this study make a distinction between returns based on certain and on doubtful diagnosis. To secure the additional information needed for this distinction the Bureau is sending tens of thousands of letters to physi-

cians who have certified deaths from cancer asking whether the diagnosis was based on clinical findings alone or was established by surgical intervention, microscopical examination, or autopsy.

All this, it will be realized is a large amount of work for even a government bureau to undertake. Much of it should be done in the first place by the Registration Offices and the Boards of Health of the several States, where the original certificates of death are filed. It will be the duty of the American Society for the Control of Cancer to urge upon they arious State officials the need of undertaking this work in order to insure the permanence of the advance in the statistical study of cancer which has been inaugurated by the Census Bureau.

But the Society is also interested in special statistical studies of the geographical, racial, and occupational distribution of cancer, and above all in collating, upon a uniform plan, the records of surgical treatment of the disease in the leading hospitals. It is important that an authoritative answer be available for all who ask just what percentage of success is to be expected in the treatment of each phase and each stage of this multiform disease. All such studies the Society regards as fulfilling its fundamental purpose and in pursuing them it is everywhere receiving the most cordial encouragement and assistance from statistical offices and from the best hospitals and institutions.

Relation to Educational Agencies.

The important and clearly established lessons derived from such studies of the sources of information must be given to the public. The Society has undertaken to do this directly, through its publications, its regular articles for the newspapers

and its lectures. But in the large view it can best secure this object by enlisting the co-operation of all appropriate existing agencies which conduct educational work. Foremost among these are the State and local departments of health, especially those which are devoting an mcreasing share of their energies to the spreading of the gospel of health by bulletins, exhibits and lectures. In the same category must be included the Committees on Public Instruction which, in many States are conducting admirable campaigns of health education under the auspices of the State Medical Socie-Toward all these agencies the Society stands in the relation of the "producing" to the "distributing" end of a manufacturing business. With its wide outlook over the national field it is in a strong position to provide statistical material, to receive and pass on new knowledge, new experiences, new methods which have been found valuable in one field and should be used in others. In another view the Society may take the position of "middleman" between the research workers and statistical students producing new facts about cancer at the sources of knowledge on the one hand, and on the other the many agencies, general and local, which will bring the practical bearings of this knowledge, new and old, directly home to the people. In general, then, one of the most useful functions of the Society is to act as a bureau of information and clearing house which is at the service of all workers and institutions interested in the study and control of cancer.

Relation to State Committees.

The relation of the National Society to similar movements within the various States should be clear from what

has been said. In no case will the Society seek to set up local agencies to parallel work already adequately organized under the auspices of State Societies and Boards Medical Provision is made for local Health. committees to be organized under the supervision of the resident directors of the National Society wherever no State or local agency is in a position to undertake the work. Such groups will not be formed, however, except under full agreement with present State agencies. Where, as in Pennsylvania, under Doctor Wainwright, and similarly under the auspices of State Medical Societies in Maine, Wisconsin, Kansas, Colorado, Louisiana, Texas, and many other States, active local committees are at work, every effort will be made to assist these groups in the manner already outlined and so far as the constitutional limits of size permit to secure from them representative delegates to the governing council of the National Society. least one director from each State will eventually be chosen to act as a local correspondent who will inspire and stimulate work in his own State while at the same time assisting in formulating the general policies of the National Society.

Relation to Other General Committees.

It is an earnest of the good feeling and harmony with which the cancer campaign is evolving toward a single coherent national movement to consider the high degree of integration with other national agencies which has already been attained. Some of these had begun effective work long before the present Society was established. Aside from such admirable local campaigns as that of the Pennsylvania Commission and the work inspired by Dr. C. C. Carstens in Michigan, the

Clinical Congress of Surgeons North America had in the field an active Committee on Cancer, under the chairmanship of Dr. Thomas S. Cullen of Baltimore, the other members being Doctor Simpson, of Pittsburgh, and Dr. Howard C. Taylor, of New York. This Committee, as is well known, caused the publication of widely read and influential popular articles by Samuel Hopkins Adams. It is instanced merely as indicative of the get-together spirit that animates the National Society that all three of these men naturally took their places as members of the Executive Council of the new association. Subsequently the American Medical Association aprointed a Cancer Committee representing its Council on Health and Public Instruction, and again to avoid duplication of effort the same men were made members of that Committee. Dr. Frederick R. Green, the capable executive of this Council of the American Medical Association, has been from the first a director of the Cancer Society, and has given invaluable advice and co-operation in its publicity campaign, printing every week in the press bulletin of the A. M. A. a popular article on cancer prepared by the Society, which thereby reaches 3,000 or more editors in all parts of the country.

A similar identity of committees has been effected in local fields, especially in Minnesota, and is typical of the desire to carry on everywhere a well-co-ordinated national campaign which shall embrace representation from all the principal local agencies, and shall thus move forward with absolute harmony and unity of purpose to the accomplishment of its difficult but glorious ideal—the progressive reduction of the mortality from this historic scourge of mankind.

CANCER.

*By J. A. Faison, M. D., Bennettsville, S. C.

WILL make a few remarks upon cancer in general. Will give a resume of a few things known about cancer. Cancer is a malignant epiblastic or hypoblastic tumor. We are as ignorant today of the cause as we were thirty years ago. It was expected that bacteriology would throw some light on the cause, but so far no extraneous parasite has been proven a cause, so we stand today where we were thirty years ago. The origin, growth, and behavior of cancer cells, proves it is not of parasitic origin. We have theories and views, but the concensus of opinion is that cancers originate from pre-existing cells of the body—in these cells there must be an innate capacity to multiply. What irritates these cells into activity? Would there be cancer without irrition? We have long known that trauma plays an important part in sarcoma, and prolonged irritation starts carcinoma, as the pipe stem and jagged teeth causes cancer of lip or tongue. From prolonged irritation we have more frequently than elsewhere in the alimentary tract cancer at pylorus, illeocecal region—rectum and anus. Irritation favoring the development of cancer is seen in X-Ray burns, scars, ulcers, burns, cicatrix of stomach ulcers, and lacerations during labor.

If carcinoma originates from epiblastic or hypoblastic cells, why do we find cancer of lymphatic glands, bone, brain and elsewhere? They come by metastasis, or by detachment and is carried by the lymph or blood stream.

Irritation is an exciting cause, yet

^{*}Read before the Marlboro County Medical Society, at Bennettsville, S. C., June 24, 1915.

we have to learn the real cause; the knowledge that they come from preexisting cells of the body, and have an innate capacity to multiply, with a stimulus to excite this innate tendency, does not satisfy or give the real cause of cancer.

What concerns us most is the early diagnosis of cancer. At times this is very difficult in elderly people, many of whom have a scale on lip, temple or elsewhere, which appears and disappears from time to time and we say this is suspicious and many of us wait until we have thickening of structure and growth of cells into the supportive connective tissue forgetting that there should be no palliative treatment for an operable cancer. The knife—the knife and remove every cancer cell, don't take any chance. Remember operation stands first, and then cauterization, X-Rays and radium, fulguration and escharotics.

Cancer of the body of uterus always develops from the endometrium—unhealed erosions are causes of malignant growths. Cervical lacerations is a tremendous etiological factor—while hemorhage is the earliest symptom, it is preceded by ulceration. Now what are we to do when cancer of the uterus is suspected? In every case insist upon a thorough examination. You will have no symptoms when the vaginal portion is affected until ulceration begins.

When consulted for simple menor-rhagia, metrorrhagia or leucorrhea, do not take this as an incident at the menopause, but examine her for cancer—she is not going to die from hemorrhage but from cancer. Whenever hemorrhage recurs or is excessive at menopause look for cancer at the body of the uterus.

As I said before pain is a late symptom depending on destructive changes. Cachexia will not help in an early di-

agnosis for it too is a late symptom. Then too you will have little pain while the cancer is limited to the cervix—pain comes with the inflammatory or destructive changes. Sharp lancinating pains mark a later stage of the disease. Peritonitis rarely fails as a late complication. Accidents in uterine cancer are, thrombi arterial or venous—usually the latter.

Symptoms that used to be pathognomic before ulceration are now relegated to the background, for we rely upon the microscope. A hard nodular condition of the cervix while suspicious may or may not be cancer and calls for the microscope. We rarely ever see o rexamine a patient for cancer of the cervix before ulcerationthe diagnosis is uncertain at times when there is a small ulcer with papillary projections and must be determined by the microscope. "Divisions of uterine cancer into scirrus, medullary colloid and epithelioma has ceased to be tenable, and was based on tactile impressions, physical appearances, and peculiarities of growth. These are accidental conditions and successive stages of development." Conditions favoring its occurrence are age, inheritance, childbearing and erosions. Richter advocates Adrenalin solution injected around the tumor. others claim success by injecting horse serum (from a horse affected with cancer) around malignant growths. Can we hope for specific medical treatment of a disease of unknown cause? It is imperative to use the best weapon at hand, to-wit: the knife. It is conceded good treatment to follow the knife with X-Ray. In the majority of operable cancers treatment by knife leads to permanent recovery, so why temporize, why wait. Evidence is that some cancers are cured by X-Ray treatment and some are not, but it is the rule for cancer patients to recover under early radical operations. When we cease to treat early suspected cancers symptomatically and palliatively, and resort early to specific surgical methods, the mortality from the disease will be greatly reduced.

As adrenalin is a fine astringent a powerful hemostatic and has strong angio-stenotic properties, it ought to be effective when injected around inoperable cancers. Mock causes many patients to conceal suspicious growths from their family physician and even from friends and relatives until it is too late. If we could only educate the laity to know that cancer in the beginning is a local process and curable if all the cancer-bearing tissue is removed; and lastly, if we could educate doctors to operate at once in suspicious cases and diagnose it afterwards, we would not see so many neglected cases of cancer eating out the life and vitality of the people. If this was routine practice, instead of one death in every eight cases, the mortality would be greatly reduced. Repeating will say that cancers belong primarily to the domain of surgery. Unless they are excised very early and freely, my observation is that the majority when treated without the knife will recur.

CANCER.

*By A. E. Baker, M. D, Charleston, S. C.

SURGERY points with pride to its success in combatting infections, benign tumors, obstructions and deformities, but what can be said as to the progress in handling the cancer problem? It has been said that the greatest outstanding obligation of medical science to mankind is the discovery of the cause of cancer, or at

least a cure for it. There is at present a universal movement in this direction. Governments and individuals have provided funds for laboratories and hospitals, many of the great minds of today are engaged in an effort to solve this cancer mystery: the biologist, the chemist, the pathologist and the clinician are at work.

Cancer occurs in every climate and among all mankind—savage and civilized; in wild and domestic animals, the carnivorous and the herbivorous; in birds, fishes and reptiles, and even in the oyster. Throughout Nature the picture of cancer of any definite type is the same.

Cancer not only destroys countless lives, but it destroys them by a method of torture. To die from an accident or an acute infection is a matter of days or weeks; to die from cancer is a matter of months or years, and this is a period not alone of suffering, but of suffering without hope—according to recent statistics there are more deaths from cancer than from tuberculosis. The active campaign against the "white plague" of recent years, has lessened its victims; the cancer victims are increasing. What is the solution? Educate the people that although the primary cause of cancer is not known many of the pre-disposing causes and pre-cancer States are known and can be recognized. Chronic or prolonged irritation is one of the important factors in the production of the disease. Cancers originating on the surface of the body never occur except at points subjected to continuous irritation and a considerable length of time. Examples are smoker's cancer of the lip, mouth or tongue; cancer resulting from friction of clothing; from the picking of warts or moles, from the irritation of a broken tooth or tooth plate; from the soot irritation of the chimney sweep; from

^{*}Read before the South Carolina Medical Society, June, 1915.

fissures and cuts of the lip, and not infrequently cancer of the gall bladder, the kidney and urinary bladder from chronic irritation of calculi. stomach with its acid contents and the continuous irritation it receives from large coarse particles of food, as well as the fact it is nearly always overworked, is one of the most frequent situations for cancer. The large intestines, which also contain coarse dried particles of feces, and, in addition has a high bacterial content, is frequently the site of primary lesion. The small intestine, which is always practically empty, and when filled contains only liquids of a slightly alkaline or neutral reaction and comparatively few bacteria, is in direct contrast with the stomach and large intestine relative to the frequency of primary cancer (Mayo).

"The frequency of cancer in the stomach and in the large intestine where the secretions are acid, and the absence of cancer in the small intestine, where the secretions are alkaline, is a remarkable fact. The question arises has the acidity anything to do with cancer formation? This acidity of the stomach is not confined to man, but, so far as we know, the great frequency of cancer of the stomach is confined to man and to civilized man."

Among the pre-cancerous lesions of the stomach, ulcer is the most common. It is an unexplained fact that ulcer of quent as of the stomach, yet cancer of the duodenum is three times as frethe duodenum is rare, while cancer of the stomach forms nearly one-third of all the cancers of the human body—so far as we know this is not true of the lower animals nor of the uncivilized man. (Mayo.)

Whereas we know little of the true etiology of carcinoma, we are firm in our belief that carcinoma is the result of repeated irritation—to the reverse

is sarcoma, which is the result of trauma; for instance a sarcoma never occurs in a bone following injury where the trauma is severe enough to fracture that bone. It only occurs where the trauma is severe enough to cause pain, like striking the tibia against a chair.

In the breast we have an exception to this rule—so far as repeated traumas or irritations are the cause of the carcinoma. In the breast you may have one moderately severe trauma and from six months to a few years afterwards there is noticed a carcinoma. The breast is the one exception in which a single trauma of moderate severity produces a carcinoma. "Just what role trauma plays in the production of sarcoma we do not know, whether it is similar to that of the trauma in tuberculosis by the precipitation of the same unknown microorganism, or whether it plays the role of perverting the growth of the cell and converting the cell into a parasite, we do not know; but the clinical fact remains that the trauma is associated with the disease and is an etiologic factor in its precipitation." (Murphy.)

Johan Orth and others have shown "that all there is of cancer is in the cancer cell, that each cell contains within itself the possibility of unlimited cell division, and that the stroma of the cancer which was for a long time considered a necessary part of the cancerous process, was in truth, but the measure of Nature's resistance, and represented an ineffectual effort to stem the tide of cancerous invasion."

In regard to the limit of operative measures, many, perhaps the majority, of cancer patients are seen too late. Why. When the growth is in a visible field the patient may not suspect the changes in a wart, a mole, an ulcer, a scar: he may not believe in the wisdom

of an early operation. Education is here needed. The family physician may delay because he wishes to be sure of the diagnosis; he may wish to try local treatment, or a course of specific treatment, whereby, he argues, he is giving the patient a chance, but, as Butlin has remarked "the physician has thus too often robbed the patient of his only chance and has allowed cancer to gain a mortal grip."

Again some physicians question the diagnosis until there appear glandular enlargement, general emaciation and cachexia. "Glandular enlargement and cachexia," these are terminal symptoms and indicate that the surgical opportunity is forever lost.

Not until the physician and laity are thoroughly aroused to appreciate the importance of early operation in cancer, can the surgeon meet with any permanent success in combatting with this ironclad hand of death.

In cancer of the stomach, colon, appendix, gall bladder, pancreas, etc., it is more difficult to demonstrate the pre-cancerous lesion. If it has been difficult to educate people and the profession as to the potential danger of a lump in the breast, small and painless defects of the skin and mucous membranes, and irregular bleeding from the uterus, it will be much more difficult to educate them to the significance of abdominal pain, indigestion and changes in the stools. The lump in the breast and the pre-cancerous lesion are equally visible and always palpable, but these abdominal smyptoms are vague.

How fortunate it is that there has recently been such addition to diagnostic methods as the X-Ray, which has added "enormously to our ability to see into the hidden places of the body." Roentgen's work has reformed diagnostic methods, it has replaced speculation with facts, and yet we are

only in the infancy of this new science. We are now able to determine the nature of many obscure diseases of the digestive tract, for instance, in cancer of the stomach, statistics tell us, that an early diagnosis can be made in 93 per cent of cases largely by the X-Ray. It is true that we had, in the exploratory incision, a means of fairly exact diagnosis in such cases, but this procedure carried with it a dread to the patient of an unnecessary operation, and too frequently developed the fact that it was too late for operation. The X-Ray, therefore, gives us knowledge of the early case, so we may operate with a prospect of cure and may also save the patient the distress of an unnecessary exploratory incision and ourselves the humiliation of making it.

Again I wish to emphasize that the co-operation of the public is essential if we are to have the full benefit of our present knowledge. To say to laymen that cancer is curable in the early stage is not sufficient. They have no knowledge of what constitutes the early stage. Let us, therefore, say to the public "go to your physician at once on the discovery of any sign or symptom of irritation about warts, moles, and benign tumors or ulcerations, chronic inflammatory processes, or injuries, however slight, which fail to heal promptly."

When the laity understand that all sources of chronic irritations carry with them a deadly significance, the prevention of cancer will have been greatly advanced and a much larger per cent of curable cases will come to the only known cure—Operation. Also the laity should know that 85 per cent of the tumors in the breast are or will eventually become malignant, and nothing can be gained by expectant treatment. The public should also be taught that cancer is a painless disease in the operable stage—when

the cancer gives discomfort or pain the opportunity of surgery is past.

Conclusion.

The pre-cancer stage is the preventable or curable stage. It is vastly better to prevent a cancer than to cure it. No specific therapeutic measures exist, whereby one single ray of hope can be offered. Cancer in its beginning is always local, and is curable by excision. The chances of cure diminish in inverse goemetric ratio to the lapse of time since its inception. For the comfort and ease of mind impress upon the laity that cancer is not at all inherited, communicable or transplantable. Experimentation has failed to transmit cancer from one person to another. With the lower animal Kingdom experiments have proven cancer to be transmitable.

DISCUSSION.

Dr. A. Robert Taft in discussion said that little could be added to the paper of Doctor Baker, except from the standpoint of physical therapeutics. Three factors have made the X-Ray tremendously more efficient in the last few years in the treatment of malignant conditions. These were the use of much more powerful tubes. The use of aluminum filters so that in filtering out the low rays the deeper tissues might be given very powerful doses without skin burns. (This same principle has been used extensively in fibroid and other gynaecological conditions.) And the cross-fire method (that is raying from different directions). The radiologist recognizes that surgery is the most important factor in treating malignancy and we have no desire whatsoever to compete with the surgeon but would like for the surgeon to be as generous to the roentgenologist as the roentgenologist has been to the surgeon and recognize that in the X-Ray he has a powerful adjuvant in the treatment of these cases. Dr. Arthur Holding, of the Huntington Cancer Commission General Memorial Hospital, of New York, at a recent meeting of the Roentgenray Society reports indications for treatment of these cases as follows: First degree lesions affecting only skin and but little metastasis can and should be treated by physical methods as results are just as good and cosmetic effects better. Second degree operable tumors as cancer of the breast with early metastasis should be treated as follows: Pre-operative raying, radical operation, fulguration, and postoperative raying as by the use of these adjuvants percentages of cured have been markedly improved. Third degree inoperable cases whether superficial or deep. These cases are doomed to die 100 per cent and under, in a series of 116 5.8 per cent have been cured and 20 per cent improved. Pfaeler in Jour. A. M. Asso. about a year ago reports several cases of osteosarcoma cured by the X-Ray after being pronounced inoperable.

Stern, of Mt. Sinai, says that the postoperative treatment of cases of malignancy
is materially reducing the chance of recurrence. It should be used in every case
after operation no matter how radical, for
no matter how careful the surgeon he may
overlook some minute glands, and these the
X-Ray pick up and kill. He concludes by
saying that the surgeon should be made
to feel that his duty does not end with the
operation and he is not fulfilling his duty
if he does not advise raying to be carried
out for a period of three years. Doctor
Taft then showed lantern slides of some
cases he had treated.

Doctor Jackson spoke of a case he had treated with Coley's serum with benefit. Doctor Pearlstine spoke of the necessity of education of the layman and that we saw so many more early cases and reported cases operated on with good results.

SOME MEDICAL NEEDS OF SOUTH CAROLINA.

*By George E. Thompson, M. D., Inman, S. C.

HE profession which we practice is a progressive science. Year after year we meet together and discuss new ideas, new methods of diagnosis, and new plans of treatment. We endeavor to weed out the bad from

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

the good and go back to our homes with new hopes and aspirations. We boast of modern achievement, both in special and general medicine, fancying that we build towers of success upon the crumbling pillars of yesterday's failures. Our clientele believe in us and our methods, and well they may, because medicine today is more of an exact science than ever before.

But increased wisdom incurs increased responsibilities and these in turn present problems for solution. To what extent are the things of which we boast of real service to our patients? How many physicians in this State enjoy the advantages of a wellequipped laboratory? I admit that the laboratory of the State Board is at our service (and I wish here to express my appreciation of the services of the gentlemen having charge of this institution for many favors in the past), but for obvious reasons this laboratory cannot fill all the needs of the average practitioner in South Carolina.

Of what avail is the Wassermann reaction, the Colloidal Gold Test, the serum diagnosis of pregnancy, or the differential leucocyte count, if we cannot use them in our practice? How often even these few things could have helped us by solving a problematical diagnosis!

How much better results we could expect and get in our fracture cases if we could have a few X-ray plates made by a competent radiographer in every instance! How many cases of cancer might have had a longer life if diagnosed in time! How many thousand times in other conditions we could have satisfied the families of our patients and our own consciences with a positive diagnosis if we could have submitted a specimen to a good laboratory and not had to guess at a diag-

nosis, or to wait for further clinical signs to develop.

I know that to some of us these methods are available—in the exceptionable case to more of us—but the well-equipped laboratory in charge of a competent man is beyond the reach of almost all of us. The young graduate of the present day, emerging from college, needs a small fortune to have a chance to apply his knowledge. Without an opportunity to apply his knowledge he cannot serve his patients to the best of his ability.

Realizing all these conditions what shall we do? We stand at the fountain of knowledge and knowing the taste of its waters, we would drink a sufficiency, but we cannot because we do not care to stoop and we have no vessel. But such ought not to be the case. Shall we, who have the wisdom of the present, be unable to travel no further than the paths of our forefathers in medicine? To buy and maintain a chemical, microscopical, and X-ray laboratory would require a considerable financial outlay. To be efficient it should be in charge of a trained operator. Such a laboratory should be accessible to every physician and patient in South Carolina. Under present conditions of things we cannot give our patients the benefit of sufficient collective evidence in diagnosis when collective evidence is essential. It should not be necessary for us to send either a patient or specimen to a distant city for information that ought to be available here in South Carolina. On the other hand many of our patients can ill afford the expense.

The problem is one not only for the physician, but the public as well. The expense of such an institution should therefore be met by the public government. Perhaps the immediate community, and the person receiving aid, should also share in the cost of estab-

lishment and maintenance. With this addition to our armamentarium we can expect an increased respect for scientific medicine and an increase of our own efficiency.

THE AVOIDANCE OF SHOCK DUR-ING SURGICAL OPERATIONS.

*By LeGrand Guerry, M. D., Columbia, S. C.

HOW can we prevent the occurrence of shock during operations? That's the question. We can answer it only in part.

In the first place, we must have some adequate idea of just what shock is; and secondly, we must know at least some of its causes. Fortunately for us, we can do much, very much, to prevent the condition from arising, but unfortunately, we can do very little to relieve the situation once it has arisen. There is no remedy, within our knowledge at least, that can be considered as specific for shock when the condition has fully developed. In shock that comes from loss of blood, direct transfusion is, of course, to be considered curative, for here cause and effect are intimately associated, and the transferring of blood from donor to donee by the direct method can fairly be considered a specific remedy. Let us repeat this statement, for it serves as the groundwork of our reasoning. Apart from shock associated with hemorrhage, we have no remedy and there is no known treatment to be regarded as specific. We can define the condition, we can describe it, we recognize the symptoms when they appear, we appreciate and comprehend the clinical conditionhowever, we can do little to relieve and much to prevent its occurrence. We do not possess complete knowledge of its causes by any means. Crile gives us a very good definition: "Shock—the result of exhaustion—brain-cell exhaustion, the most vital effect of which is impairment of the Vaso-Motor mechanism." This is only a definition but one that will help us to understand some of the things that are to follow.

Let us briefly review the most important theories concerning the causation of shock, for after all has been said and done, the closer we come to understanding the cause of any condition, the better position are we in to combat it:

(1)

The Yandell Henderson theory: Henderson is Professor of Physiology at Yale University. To put this theory in a sentence, "shock is due to a loss of earbon dioxide from the blood on account of excessive breathing reflexly induced by painful stimuli," the so-called Acapnia theory; which means the loss of carbon dioxide and an excess of oxygen in the blood, the word "Acapnia" being derived from the Latin, "a"—lack of; "capnos" smoke. In other words, due to excessive and prolonged deep breathing which comes as a result of stimulation, there is a remarkable increase in the oxygen content of the blood with corresponding diminution of carbon dioxide. The blood being so overcharged with oxygen, the necessity for breathing being temporarily suspended, when the time arrives for breathing to occur, there is not left in the blood sufficient carbon dioxide available to stimulate the respiratory center, carbon dioxide being vitally necessary to the stimulation of the respiratory center. According to Henderson, "the

^{*}Read in the Symposium on Anaesthetics before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

deep and rapid breathing which is induced by pain, excitement, or exposure in handling of the intestines, reduces CO2 in the blood to a very low figure, whilst the oxygen, of course, is increased." This is undeniable, and his blood-gas analysis in animals bear it out; "therefore, when the stimulus ceases, breathing becomes very shallow and occasional, and at the same time the blood pressure falls and the heart beats quickly. This condition may, and probably will, lead to death in animals." Henderson's theoretical conclusion is, "that the cause of death is due to lack of oxygen, the store becoming exhausted before the CO2 rises high enough to stimulate the center into activity again." "It may be taken as proven that animals under artificial respiration can be brought into a state of severe shock by excessive ventilation." The researches of Henderson are of great interest and full of valuable suggestions. It would be extremely interesting to discuss this theory, but time is limited.

(2)

The Boise theory—cardiac spasm. Boise takes the position that shock is not due to exhaustion of the Vaso-Motor center, but due to cardiac failure. He points out that Crile repeatedly found the heart and arteries in a state of spasmodic contraction after death. While this theory also contains an element of truth, A. Rendale Short, of Bristol, England, reminds us that Boise's contention fails to take into account the depressor nerve fibres. I wish to say right here to those who are sufficiently interested in the subject, that the best review of the theories of shock that I know of, is found in an article by Short in the British Journal of Surgery for July, 1913. We have borrowed very largely from this article in discussing the theories of shock.

(3)

The Meltzer theory. Meltzer's theory is this: "In a condition of shock, all of the organs are inhibited in their function, beginning with the less vital and spreading to the more vital." The essence of Meltzer's contention is that oligemia is the real pathology of shock.

(4)

The Crile-Mummery theory. We have already indicated this theory in our definition. Crile and Mummery contend that shock is an exhaustion from the Vaso-Motor center due to excessive stimulation whether this stimulation is caused by trauma, or fright, or loss of blood, or mental anxiety, the essential condition remains the same, to-wit: the exhaustion of the Vaso-Motor center by excessive stimulation. This theory of Crile has been and is undergoing powerful criticism. A number of most competent observers have disputed his contention about the dilatation of the arteries and the exhaustion of the center during shock. We cannot discuss these theories further, except to refer you again to the above mentioned article.

From what has been said, it is apparent that none of these theories contain all of the truth, and probably all of them contain some of the truth. Crile in his work, however, has taught us many valuable lessons about gentleness in handling patients, of handling easily, about caring for the patient's mental condition previous to operation, and laying great stress on a broader and more comprehensive view of the preparation of patients before operation. Charles A. Pannet, of London, states the case as follows: Whatever ultimately will prove to be the nature of surgical shock, whether it be a condition of exhaustion of the nerve centers, or reflex inhibition of these centers, or a chemical interference with their activity from alteration in the composition in the blood, as some observers believe, it seems clear that the condition is the result of nocuous stimulation of nerve ending situated in the organs or tissues subject to injury.

Bearing in mind what has been said, we may now approach from a practical standpoint how to avoid shock during operations. The point I wish to drive home is this: In view of the fact that we must accept as proven the statement that we can do a great deal to prevent shock and not very much to cure it, we must begin the fight as soon as the patient comes under our care. We need a closer study of our cases. The word, "diagnosis" means to know through and through. When we make, for example, a diagnosis of prostatic hypertrophy, we have not really made a diagnosis at all, but only named the disease. As a concrete illustration of the point we are trying to make, let us take for example a case of gall bladder disease. This patient, Mr. Blank, age 50, presents himself for treament. Is it sufficient to make the ordinary superficial examination and then advise operation? Certainly not. You believe he has gall stones, in fact you are quite positive of it. Have you really made a diagnosis? Not at all. Let's proceed in this way, for this case can be considered typical of what we wish to say: We first get the patient's age, family history, and a detailed personal history. This point in the case is one of vital importance, and too much stress cannot be laid on it, for how often have we seen the history alone lighten a dark corner and laboratory findings that are not consonant with the clinical history of the case are very frequently to be discredited

and should be gone over again. Thea should come a thorough physical examination, and this should include everything that that term implies. The condition of his heart, of his lungs, of his abdominal viscera, of his nervous system should be carefully looked into, especially in people with this malady should the kidney function be most care fully scrutinized, and before any operative work is attempted, we should know the functional capacity of the kidneys. more than one occasion have we seen a presumably safe risk from a gall bladder operation recover from the immediate effects of the operation, and within a week or ten days, with a normal temperature, begin a constantly increasing pulse rate due to a myocarditis and renal insufficiency, the result of a long standing gall bladder disease the pulse increasing in frequency until the end comes in ten or twelve days. Such a termination should be avoided in many cases. How often do we see the kidney examination dismissed with a perfunctory urinalysis, the kidney should be studied with great care until we know exactly what they are doing and what they are capable of doing. To illustrate, take the case of an old man with prostatic hypertrophy, one can almost determine the outcome of the operation before it is done by finding out the exact functional capacity of the kidneys, and surely no case of this sort can be operated on without a cystoscopic examination of the bladder for the method of approach, provided the case is suitable for operation, is determined largely by whether the hypertrophy projects into the bladder or not. Concretely, here is a man 76 years of age in uremic coma, with an enormous retention of urine, in a most desperate condition, and on the very verge of death, surely an immediate radical operation in this case would have been to invite disaster. A supra-pubic drainage under cocaine, bladder irrigations, proper diet, careful hygiene, rest in bed, careful study of his case, with appropriate treatment for four weeks, transferred this case from a class of hopeless surgical risks to a reasonably safe risk. His phthalein output was 7 per cent on admittance to the hospital and at the time of his operation four weeks later was about 40 per cent. The cystoscopic examination of his bladder determined us to do the supra-pubic operation. This was done with very little trouble and our patient is in good shape today. What is the great lesson to be learned in this case? That the operation was the important thing? Not at all, for the surgical work was merely an incident in his recovery. As a matter of fact, in many of these cases the actual performance of the operation is not the thing of chiefest importance. The thing that saved this man's life was the proper understanding of the case and thorough preparation for the ordeal through which he was to pass. Every patient, if we are to prevent shock in surgical work, every case must be studied exhaustively. We must, as it were, take a yard stick and measure the patient's strength and place that measurement over against the demand that the surgical procedure will make on his inherent vitality and resistance. The difference between the patient's strength on the one hand, and of the demand made on his strength on the other hand. will represent in each individual case the margin of safety. This margin of safety, as we are pleased to call it, is the thing that we must know thoroughly as the means at our hands will allow. This is the view we would have you take on the question of diagnosis. Diagnosis is medicine and di-

agnosis is surgery, and apart from it there can be no successful treatment. Another illustration, take a case of Grave's disease, patient comes to the hospital with the classical symptoms of hyperthyroidism, she has some fever, possibly diarrhoea, pulse rate about 130, she has the eye signs, the nervous symptoms and all the other clinical phenomena of this condition, she is already in a condition of what you might call shock. Are we going to operate on this case at once? Not if we wish to save her life. To take such a case as this through an operation requires a most exhaustive care and complete study. All the means to build up her physical condition to allay her mental anxiety and apprehension, to reduce her pulse rate and bring the whole physical condition of the patient to a margin of safety, where the additional effect of operation can be borne with reasonable certainty of a successful outcome, is a real task that is set before us. case with the gall bladder disease, the case with the obstructing prostate gland, the case of Grave's disease, we have simply used as types as illustrative cases and we wish to project mentally the fact that the surgical principles that underlie the management of these cases, should be the foundation on which we rest all of our work, be it medical or surgical. This, then, is the real answer to the question we have started out to solve, namely: that the way to cure shock is not to cure it at all, but to prevent it. We have said already in the paper and we trust that you recall the thought, that shock is a complex phenomena, that it can be due to many causes, to the physical trauma, to infection, to fright, to anxiety, to worry,—hence it is that when a patient enters our care in the hospital, all of the avenues should be guarded. Everything should be done to stimu-

late the patient's confidence in the outcome of the operation. Our individual plan when the operation is finally determined upon, is to give them before coming to the operating room a sixth of a grain of morphine with 1-150 grain of atropin. The anaesthesia is started with a nitrous oxide induction. When the patient is asleep, according to indications, the nitrous oxide can be changed to ether. In the actual performance of the work, the man who does the work quickly but not hurriedly, who has a light hand, who knows what he wants to do and how to do it, is the man who will have the best results and the least amount of shock.

One thing we must scrupulously guard against, and that is the loss of blood. On my first visit to the Johns Hopkins Hospital years ago, Doctor Halsted impressed me with the necessity of absolute haemostasis, and today this principle is bigger to my mind than it has ever been, and there is no more prolific cause of shock than loss of blood. The long operation that is comparatively bloodless, will have less shock than a short operation with great loss of blood. As a matter of fact, I think that apart from severe injuries, one seldom sees shock to any great extent in a well-appointed hospital. You all know of Crile's work in this direction. His theory of anociassociation is accepted by many men and his technique followed with excellent result. Very briefly this consists in morphine before operation to allay the mental excitement, nitrous oxide anaesthesia as a general anaesthetic, and local blocking of the operative area with novocaine to prevent any impulses being transmitted from the local field to the brain during the operation. This method we do not doubt as useful, and in many selected cases we use it. It is tedious, it prolongs the work, and in the great majority of surgical risks, we believe unnecessary. Crile reports his mortality in support of this method as being under 2 per cent. This is very low, but is no lower than many other first-class surgeons achieve that do not follow this method in detail.

In conclusion, let me say that in very recent years our ideas about the prevention and control of shock have crystalized too exclusively around the operation and its performance. This is true, but it is only a part of the truth, and not always the most important part. We would have the conception of shock prevention extended until it rest on this three-point suspengion. The patient before the operation, the patient during the operation, the patient after the operation. Finally, we beg that you remember this, if nothing else in the paper is of interest, that it is not all of surgery to opcrate.

THE INFECTED INDIVIDUAL A PUBLIC DANGER AND A PUBLIC PROBLEM.

*By G. F. Klugh, M. D., Cross Hill, S. C.

In THIS progressive era of medicine the Vanguard of Science is outstripping the main army of practitioners and we have more information than we are using properly. Of course it is inspiring to listen to papers describing new remedies and new technique, but we must pause occasionally and consider how all these discoveries can be fitted together so that suffering humanity can reap the full benefit of these scientific achievements.

The microscope has opened up a new

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

proven conclusively that the infected individual is the main factor in the spread of disease. Yet we still hold antiquated views regarding the spread of certain diseases by means of air, water, and heredity, that are wholly or partly wrong, while the patient runs at large adding to the morbidity and mortality rate. This state of aifairs exists because the State Health Officer has too much ground to cover effectively with the men and money at his disposal. The rural communities need the same protection given the larger cities, and unless protected, are a menace to the cities. In small towns where the Health Boards are more or less honorary we have supposed rather than real protection, and if possible they are in a worse condition than the rural districts.

field in the last third of a century, and

The following instances will show what one infected individual can do to spread diseases: First, Typhoid Fever: In 1914 a young man who had been working in Columbia came to his home near Cross Hill, S. C., sick with typhoid fever, and four other cases followed in the family.

In 1913 a young lady, after visiting in Clinton, S. C., came back to her home near Mountville, developed typhoid fever in a mild form, and six younger brothers and sisters had it later.

Second: Tuberculosis.—A woman of tubercular parentage married, left home and reared a large family, but when about fifty years of age, contracted tuberculosis while visiting her brother. Since then she and seven of ten children have died of tuberculosis. Her oldest son married into a family free from tuberculosis, and his wife and three of her sisters, his own infant, and an infant of one of the sisters have died of tuberculosis. The total known deaths from this one case in the past

twenty years have been thirteen. There are two or three more cases in the family now probably past medical aid.

Third: Malaria.—In 1912 a man having malarial chills, came to his home, near Cross Hill, from Greenwood, and in a short while about half a dozen cases developed in nearby families, but were stamped out by screening patients and thorough treatment with large doses of quinine in the acute stages. In 1913 a family with chronic malaria in several members previously treated by home remedies and chill tonics, moved from one farm to another in a different neighborhood, and about a dozen new cases developed. In 1914 a negro child was sent home to his grandparents near Cross Hill, from Greenville, sick with chills and fever. He was screened at night with mosquito netting, and given large doses of quinine. No secondary cases resulted.

These instances are only a few, and might be added to daily from my own and other men's practices. Half treated cases develop partial immunity and think themselves cured. No one set of people alone can be blamed for this state of affairs, the laymen are partly to blame for refusing treatment, the profession is partly to blame for not insisting on thorough treatment in the beginning and continued treatment until cured. Patent medicines are partly to blame, and the Health Boards also deserve some criticism for not demanding sufficient men and money to do their work thoroughly.

Mild cases and chronic cases are never seen by a physician, and these often start virulent epidemics. Infection, before a case can be diagnosed with certainty and proper precautions, account for a large number of second-

Older views have exagary cases. gerated the importance of certain phases of disease transmission, namely: that measles and other exanthemata are air borne: that typhoid fever is usually water borne: that mosquitoes carry malaria without regard to infection from a malaria patient: that tuberculosis is hereditary.

To remedy the present state of affairs much can be done, and I invite your free discussion and frank criticism of the following recommendations: First, That the public be taught that the source of all infectious diseases is an infected individual; that mild cases may result in virulent epidemics; that all cases of fever and catarrh of nose and throat be considered infectious until proven otherwise; that infections usually spread through secretions or excretions from mucous membranes, or through insect bites after having bitten an infected person, and, that screening the patient and disinfecting excretions and utensils used by patient are necessary to avoid secondary cases, even before a ical inspection of all school children at regular intervals. Third, All male applicants for marriage should be required to have a health certificate, because they more frequently have venereal diseases than females, and because at present they are usually the bread winners. Fourth, The general practitioner should use all resources placed to his disposal by the Health Office. He should immunize every person in contact with a suspected typhoid patient, should report cases promptly, and should advise and insist on such measures as will lessen danger of infection and insure rapid and complete recovery. Fifth, and last but not least, having used all these measures we should have an adequate supervision of rnral districts and small towns by the State Health Office, through full-time Health Officers under direct control of the State Health Officer. If it is not feasible to have one such officer in each county the present staff should be added to and our forces concentrated on one or more diseases until they are entirely

diagnosis can be made. Second, Mea-wiped October 1988 DEPORTS

ANDERSON.

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The Anderson County Medical Society held a most interesting meeting at the Hospital, Wednesday, June 2d, at 12 o'clock. Not only was this a regular meeting but combined with this was the formal opening of the Dr. Waller H. Nardin, Sr., Laboratory of the Hospital. After the death of Doctor Nardin, Sr., his children established a laboratory at the Hospital in his memory. At the burning of the Hospital, two years ago, this laboratory was destroyed and had not been re-established until recently when the Hospital authorities decided to equip the laboratory—this to be known as the Waller H. Nardin, Sr., Laboratory. Practically all of the members of the Society were present at this meeting a number of invited guests, among the latter being Drs. G. A. Neuffer, of Abbeville, President of the State Medical Association, F. A. Coward, Director of the State Laboratories, and T. W. R. Wilson, Director of Laboratory of the Greenville City Hospital.

The following program was carried out:

- 1. Some Observations on What the Laboratory Has Done and Is Doing For the General Practitioner.—Dr. G. A. Neuffer.
- 2. The Functions of the Laboratory in the Work of the Modern Hospital.—Dr. F. A. Coward.
- 3. The Practical Side of the Operation and Maintenance of the Modern Hospital Laboratory.—Dr. T. W. R. Wilson.

Leaders of Discussion.—Drs. J. R. Young and Olga V. Pruitt.

The above papers were excellent and were of special benefit to us just at this time when we are opening our Laboratory. At the conclusion of the Scientific program the meeting adjourned to the laboratory on the third floor which was open for inspection. This was highly approved by all.

Later all were ushered into the beautifully decorated dining room of the Nurses' Home where an elegant dinner was served. After dinner speeches were made by the following, each being introduced by Toastmaster Dr. E. A. Hines: Mr. R. S. Ligon, Dr. G. A. Neuffer, Dr. Frank Lander, Dr. W. H. Nardin, and Dr. R. F. Divver. All of these paid most fitting tributes to the memory of the late Dr. W. H. Nardin.

The mid-June meeting of the Anderson County Medical Society was held Wednesday, June 16, at 12 o'clock, with an attendance of twenty-two members. We were especially glad to have with us at this meeting one of our number, Dr. R. Lee Sanders, who is now on the staff of the Mayo Clinic, Rochester, Minn., he being at home on a visit.

After several business matters had been disposed of the Scientific program was immediately entered into. This had been arranged by Dr. W. H. Nardin and consisted of papers on Cancer as had been requested by the House of Delegates of the State Medical Association, and was as follows:

- 1. Cancer Outlook.—Dr. J. B. Townsend.
- 2. Cancer of the Genitalia.—Dr. J. R. Young.
- 3. Cancer of the Digestive Tract.— Dr. R. Lee Sanders.
- 4. Facial Cancer.—Dr. W. H. Nardin.

The first three papers were read and proved to be most interesting and instructive. At the conclusion of these it was decided that owing to the lateness of the hour the program should be carried over to the first meeting in July when the paper of Doctor Nardia should be read and when there would be time for general discussion of all papers read.

Olga V. Pruitt, Secretary.

COLUMBIA MEDICAL SOCIETY.

The Columbia Medical Society met Monday night, June 14, with twentyseven members present.

In accordance with resolutions passed at State Association last April our program was devoted to the discussion of Cancer.

"Diagnosis and Prevention of Cancer."—Dr. Heyward Gibbes.

"Report of a Clinical Case of Cancer of the Breast."—Dr Jane Bruce Guignard.

Dr. F. M. Durham demonstrated a preserved specimen of cancer of stomach removed from a patient from whom he had removed five quarts of undigested material by gastric lavage.

Dr. N. B. Heyward and Dr. J. H. Taylor reported a case of cancer of the breast in which there was metas-

tasis into the long bones following amputation.

Dr. J. H. Taylor gave an interesting review of the experimental transmission of cancer in the lower animals. Discussion by Dr. Geo. Bunch, Dr. Isadore Schayer, Dr. Robert Gibbes, and Dr. F. M. Durham.

Dr. H. W. Rice reported a case of cancer of the uterus. A polypoid growth removed from internal os was diagnosed as malignant by pathologist at Johns Hopkins. Hysterectomy was performed with no further development.

Dr. Geo. Bunch reported two cases of hysterectomy for fibroid uteri. Later the cervical stump and pelvic glands became involved, showing that fibroids do become malignant.

Dr. J. H. Taylor referred to the tendency of fibroids to undergo sarcomatous degeneration.

Dr Lindsay Peters reported a case of cancer of the lower eye lid, diagnosis being confirmed by microscopic section.

Dr. Robert Gibbes reported on the dangers to the operator of the X-Ray machine in its early history, before it had been learned to measure the dosage. The skin lesion resembled that of pellagra, but later developed into cancer, causing death.

Dr. P. V. Mikell reported a case of cancer of the neck with metastasis to the long bones.

Motion carried to donate \$20.00 to the Belgian Fund.

Adjourned.

Edythe Welbourne, Sec.

SPARTANBURG.

The Spartanburg Medical Society observed Cancer day at its regular monthly meeting, June 25th. The meeting was well attended. Dr. A. R. Fike read a paper on Epithelioma, he also exhibited a chart showing the increase in deaths from cancer and the number of deaths as compared with those from tuberculosis, pneumonia, and organic heart disease.

Dr. H. R. Black read a paper on Cancer of the Breast. These two papers were discussed jointly: Doctor Potts in opening the discussion stated that the easier diagnosis the worse the prognosis; also that cancer of the breast never kills except by metastasis and this does not occur until ulceration. He also believes that in cancer of the uterus many deaths occur from operations on non-operable cases. In many of these cases if Percy's methods (cold cautery) were used the non-operable could be converted into operable cases.

Doctor Haynes in speaking of cancer of the stomach said that it was most important that the diagnosis should be made early and that a close watch should be put on those patients who give a history of gastric ulcer, so that the diagnosis can be made before the mass appears.

Dr. S. T. D. Lancaster said that we haven't really begun to thoroughly study cancer in the country yet.

Doctor Keller stated that in cancer of the larynx usually hoarseness is the most marked symptom and that persistent hoarseness in a man over forty is very characteristic of laryngeal cancer. When operated on eary 15 to 25 per cent recover.

Dr. W. J. Chapman stated that much of the difficulty in making an early diagnosis is because the patient delays too long in consulting the physician because of the dread of an operation, and this is the thing to be combatted.

The members of the Society expressed themselves as being very much pleased with this meeting.

L. Rosa H. Gantt, Secretary.

Minutes of the Scientific Session of the Sixty-seventh Annual Meeting of the South Carolina Medical Association, Greenwood, S. C., April 20-21, 1915.

The Association was called to order by the President, Dr. Edward F. Parker, of Charleston.

Prayer by Dr. J. O. Willson, President of Lander College, as follows:

Almighty God, who has guided us and been with us all our days, be with us this morning, and be with us at all times. We pray Thee, let Thy spirit rest upon us all here, that they may be taught to banish pain and o bring back health to those sick and suffering.

We thank Thee, God, for physicians and for the work Thou hast given them in these years that are gone, and especially in these years that are just behind us.

Thank God for the advancements made in medical science, that now things that a little while ago were impossible, are now possible to us; that precious lives have been spared and precious services given that in times past would not have been.

God bless every doctor in South Carolina. Bless the guests that are with the assembly here; bless all the patients that are left behind, and be very tender and gracious to all; and, Father a shadow fell at the very opening. Thou didst call away a leader of men in a moment. Holy Father, be very tender and gracious to those so suddenly bereaved, and to this body, which is itself bereaved, and grant out of this sad Providence there may be lessons learned and good received that shall bring comfort to us.

Bless the whole round world and all that in it is, for Christ's sake.—Amen.

Address of Welcome by Hon, W. H. Nicholson, President of the Chamber of Commerce.

We have been very fortunate in the past two years in having to meet with us many distinguished bodies, but we feel today that we are peculiarly fortunate in having as our guests this splendid body of men representing the medical profession of South Carolina.

Mr. President, and gentlemen, you have heard many tributes to the Doctor and his work; and, sir, to that man who has lived true to the ideal of his profession there cannot be any tribute that is too exalted; for to spend one's life in listening to the ills of others, in trying to lessen human suffering, in a real effort to promote human happiness, is, indeed, to give one's life to that which is highest and best.

In behalf of thhe Chamber of Commerce and our other business institutions, and in behalf of the educational institutions of this town, it gives me pleasure, and I esteem it an honor, to welcome to our midst this distinguished body of men.

Mr. President and gentlemen, there are some who, on an occasion like this, may feel that we may dispense with such ceremony as this; - and it is not absolutely necessary, but we people of Greenwood are proud of the spirit which has prompted us to welcome you here, and we believe that you members of this profession will appreciate the spirit in which this welcome is given (applause); because, gentlemen, there is nothing in this day of progressive activity which we are overlooking more than the spirit of sentiment. We must not forget that in every single great undertaking this same spirit has been the real motive power that has made great things possible; and I am glad that I can speak to a profession of men who hold this sentiment dear, and who have the most exalted ideals and loftiest purpose in their work.

Gentlemen, it is no wonder, then, that we are glad to welcome you as our guests; that we are glad to have here men whose purpose is high; who are men of the highest intelligence; whose ideals are lofty; men who belong to a profesion that has done its part, and is doing today, more than any other secular calling to promote the real advancement of human happiness.

Gentlemen, we are glad of our industrial achievements; we are proud that our country is making the strides that it is making; but if we will really consider, it is the man of science—that branch of science to which you peculiarly belong—that has made possible for us the maintenance of the position

Where would our that we now occupy. industrial centers be if it were not for the knowledge that has made possible the maintenance of these suroundings? Where would our waste places be? And, Mr. President and gentlemen, if it had not been for that man of science,—that man of your profession—the greatest undertaking of the last century, and certainly the greatest achievement of the present century, would not have beein completed, and we would not today have the two great fields of commerce connected, as it were, by a few short minutes.

Mr. President and gentlemen, there has always been a peculiar charm about the doctor's life and his work, and I suppose that is why so many authors have seized upon this fact to have the plot in their stories centered about the life of some noble doctor and his work; and, gentlemen of the medical profession of South Carolina, this is true for the reason that the world expects of this profession today the same high purpose, the same true endeavor that we have illustrated in these characters of fiction. And sirs, I am glad to say that in this the world is not disappointed, because we have in your profession-we have in South Carolina members of your profession who are as true in their lives, who are as earnest in their endeavors as any character of fiction that has ever been created.

Mr. President and gentlemen, I will not detain you longer. I know that you have much work to do; and, sirs, if your Association is anything like the Association to which I belong, you also have a great deal of talking to do; but, Mr. President, we want you to feel, and we want every member of this Association to feel, that you are, in deed and in truth, welcome to our city; that all we have is literally yours.

We trust, sir, that the meeting of this Association will be a pleasant and a most profitable one, and that when you have finished your work you will take with you to your homes the kindest feeling for the city that we think is the greatest place in all the world. (Applause.)

THE PRESIDENT: I have the pleasure of introducing Dr. J. D. Harrison, of the Greenwood County Medical Society.

DOCTOR HARRISON: Mr. President and Fellow Members: Right in the heart of our little city you will notice a sign,

"Welcome," in big letters. This expresses the sentiment of the Greenwood people to you.

We are pleased to have you with us and to offer you a hearty welcome. In this the Greenwood Chamber of Commerce, and various organizations of Greenwood, and everyone in Greenwood, joins, and we wish you a very hearty welcome to our city.

As President of the Greenwood County Medical Society I wish especially to welcome you. We want you to feel that our doors are wide open to you as long as you remain in our midst. We hope that we can help you to make this, the sixty-seventh annual meeting, the best in the annals of our history, and we trust you will like our city so much that you will meet with us at another day.

On behalf of the Greenwood Medical Society and the citizens of the town, I extend to you a hearty welcome.

THE PRESIDENT: On behalf of the Medical Association I thank you for the cordial welcome you have extended us. We have come here to enjoy ourselves, and I feel sure that we will do so.

It always occurs to me, when I hear such stirring and eloquent words in typifying the peculiar charms of the Doctor's life, as a good opportunity to lay stress upon the fact that this charm would be more enhanced if patients could be persuaded not to get sick on Sundays and not to get sick at night.

It is a peculiar fact, but it is nevertheless so, if a doctor is going to get sick at all, he always chooses Sunday and always chooses the night time; so you can expect no more of patients.

We thank you very much, gentlemen, for your kind welcome. (Applause.)

The President's Address read. (Published in May issue.)

The privileges of the floor extended to Dr. I. W. Faison, of Charlotte, and all visiting physicians.

The President appoints, to meet Drs. Howard Kelly and W. S. Thayer: Drs. J. W. Jervey, John L. Dawson, S. C. Baker.

Telegram read from the South Carolina Dental Association inviting fraternal delegate to State Dental Association.

Letter read from Lander College inviting Association to visit the College.

DOCTOR HINES: Mr. President, as I understand it, this invitation does not in

any way conflict with our sentiments expressed yesterday, and as many of our physicians have daughters there and are anxious to go, I move that we include Lander College in our itinerary this afternoon. I understand that we will be provided with automobiles to visit the hospital, and the orphanage, and I move that we include Lander College.

Motion carried.

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South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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Pediatrics.

Wm. Weston, M. D., Columbia, S. C. Obstetrics and Gynecology.

Atmar Smith, M. D., Charleston, S. C. Genito-urinary Diseases and Serology.

M. H. Wyman, M. D., Columbia, S. C.

Surgery.

G. T. Tyler, M. D., Greenville, S. C.

R. Lee Sanders, Mayo Clinic, Rochester, Minn.

Public Health.

J. LaBruce Ward, M. D., Columbia, S. C.

Eye, Ear, Nose, and Throat.

E. W Carpenter, M. D., Greenville, S. C.

EDITORIAL

THERAPEUTICAL REFLECTIONS.

This issue of The Journal carries Doctor Thayer's "Therapeutical Reflections," the address delivered by him before the last meeting of the South Carolina Medical Association. In an appreciative criticism of this work one can do little more than urge every reader of The Journal to give the article the careful consideration that it deserves, to heed the sound philosophy that it contains, to profit by the vast experience that it represents, and to emulate the commendable conservatism that it advocates.

In his "Therapeutical Reflections" Doctor Thayer has not generalized, or even drawn limited conclusions, from

his own personal experience in the application of the various bio-therapeutical procedures of modern medicine. He has submitted to us a critical analysis of the work and experience of others, and has presented a safe and sane guide for our direction in applying these measures. If his address taught no other lesson than the superiority of careful scientific analysis over generalizations from personal experience, it would still be worthy of our deepest appreciation. However, such is not the case. The address is replete with interesting and valuable facts concerning the subjects of which he treats.

He has presented in a clear and concise manner the principles governing

antitoxine administration: the proper dosage, the dangers of anaphylaxis, the possibility of testing for the existence of an hypersensitiveness, and the readiness with which anti-anaphylaxis may be produced in a susceptible person. The technique and principles of the Schick test are also described, and the immense potential value that it holds is indicated.

Especially timely is the consideration given to vaccine therapy. Of recent years, the injudicious use of these bacterial products has done much to discredit a branch of treatment that has unquestionably a decided virtue when properly employed. Doctor Thayer voices a conservatism in this connection that must receive the approval of all thinking members of the profession.

The general excellence of this article is of such a nature that we hope that every member of the profession in South Carolina will read and re-read it, and finally file it away in the ready-reference file, to be constantly consulted when questions arise concerning the subjects with which it deals.

THE CANCER NUMBER A MARKED SUCCESS.

We have received more complimentary remarks about the Cancer Number of The Journal last month than any number for some time, and the entire editorial staff appreciates such expressions. We are going to do our best to make further improvements in the Scientific feature of The Journal. We especially appreciate the following comment by "The State" on the general excellence of The Journal, as well as the Cancer Number:

None of the several professional magazines which reach The State has more of sustained excellence than The Journal of the South Carolina Medical

Association and the July issue, consisting chiefly in a symposium on cancer, is a notably good number. State is heartily in sympathy with its main thesis, which is that medical men can do the public important service by making widely known among the people the urgency of early and thorough examination in all cases where suspicion arises of a cancerous condition. "One woman in eight, after 35 years of age, dies of cancer, a disease local to begin with and curable, if treated radically as soon as recognized, or even suspected." The Journal makes the timely suggestion that regular practitioners, when they are called on to address the various public meetings which are held in numbers during this vacation season, should improve the opportunity of putting in a word on the subject of cancer prevention. Procrastination is a costly vice in other fields, but in dealing with cancer it incurs the ultimate penalty.

DISTRICT MEETINGS.

On September 2d the Third District Association will meet at Clinton, 2:45 P. M., and on September 28th the Fourth District will meet at Easley. Both of these districts have had flourishing and successful Societies for some years and the prospects are very bright for a repetition of the interesting programs usually carried out. The Fourth District proposes in a general way to emphasize a Symposium on Diet as follows:

Symposium on Diet.

- 1. Modern Teaching on Physiology of Digestion,
- 2. Diet in Health. Balanced ration; caloric needs of children, day laborers, professional men; analysis of caloric value of average daily ration of working family; presentation of practical

but elastic diet but meeting caloric requirements of working man.

- 3. Faulty Diet as Cause of Disease. Balanced diet; excessive diet; deficient diet. Constipation, Arterio-sclerosis, Gout, Pellagra, Tuberculosis, Nephritis. Dietetic treatment of above diseases.
- 4. Diet in Typhoid Fever; Gastric Duodenal Ulcers.
 - 5. Diet in Post-operative Cases.
- 6. Dietetic Problems in Infants and Children.

PRESIDENT NEUFFER AND THE CHARLESTON PROGRAM.

Before the echoes of the Greenwood meeting died away President Neuffer had appointed all of his committees and had mapped out much of the Association's work for the year, including the invitations to our guests for the Charleston meeting, 1916.

While we are not in position to give out the information just yet, it is very probable that the invited guests will be men of unusual ability and reputation. Dr. R. E. Hughes, of Laurens, was appointed Chairman of the Committee on Scientific work, and his appointment assures us of a program versatile and yet in keeping with the most recent advances in Science. Doctor Hughes's long experience as Secretary of the Tri-State Medical Association of the Carolinas and Virginia will prove invaluable to the Scientific Committee.

In passing it may not be too much to ask that those members who will probably read papers next year begin to think about the matter seriously. The papers should be of much greater interest as a result of several months of careful consideration. Doctor Hughes we are sure will welcome correspondence with the members who expect to read papers.

PAYMENT OF DUES SLOW THIS YEAR.

We feel that it is necessary to call attention of the officers and members to the difficulty with which dues have been collected this year. Owing to the financial situation we are off more than one hundred members. A little effort on the part of our Secretaries and Treasurers will probably bring most of these in line before the year closes.

ORIGINAL ARTICLES

REFLECTIONS ON MODERN METHODS OF TREATMENT BY SERA AND VACCINES

*By W. S. Thayer, M. D., Hon. F. R. C. P. I., of Baltimore.

W HEN your President so kindly asked me to speak before this Society it seemed to me that a suitable subject would be a series

of reflections upon certain prevalent therapeutical methods, for after all there have, in the last twenty years, been great changes in our methods of the treatment of disease—changes which well deserve consideration more careful than is sometimes given them.

The past century has revolutionized the practice of medicine. As the speaker observed ten years ago at St. Louis,* medicine has changed in this

^{*}Address in Medicine before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

^{*}The Problems of Internal Medicine, Science, N. Y., N. S., 1904, XX, 706-715.

time from a more or less speculative art to an art resting upon firm scientific foundations.

The great features of the last fifty years of medical progress have been first, the development of our knowledge of infections, and secondly, the advance in our comprehension of chemical and physical processes and their application to the study and treatment of disease.

The information which we have gained as to the cause of many infectious diseases and as to the manner in which the infection gains entrance, has given us the power to control largely many processes which but a few years ago, were dreaded pestilences, especially fearful because of our ignorance as to their nature and source.

But during the greater part of the last century with all the advances made in our knowledge of disease, like progress had not been made in its treatment. By observation and empirical methods, much had been done to alleviate suffering, but it was yet true that the specifics remained but two—mercury and quinine.

A great advance toward new and specific methods of treatment was made in 1880 with Pasteur's* classical observation that animals when treated systematically by doses of pathogenic bacteria of a virulence below that necessary to produce a fatal result, are rendered, on recovery, more resistant or truly immune to subsequent infections.

In 1884 Theobald Smith and Salmon* made the remarkable statement that immunity may be produced by

introducing into the animal body the results of bacterial growth in culture fluids. In 1888-90 Roux and Yersin* showed that Bacillus Diphtheriae produced in its growth a soluble toxic substance of albuminous nature which. when introduced into animals, produced symptoms similar to those following inoculation with the organisms themselves, and in 1890-94 Behring, Kitasato, Roux and others demonstrated in the blood of animals and individuals convalescent from diphtheria an antitoxic substance which, injected into another animal, not only acted as a preventative but in the actual presence of the disease, by neutralizing the poison present in the circulation, brought about a rapid disappearance of the symptoms of the malady. Here at last, was a new and truly specific treatment discovered, not by accident, but by a series of carefully planned and accurately executed experiments. This was associated with the demonstration of the existence and value of anti-tetanotoxine.

Almost at the same time George Murray introduced a truly specific method of therapy of quite another sort in his demonstration of the efficacy of the treatment of hypothyroidism by the administration by the mouth of glycerine extracts of the thyroid gland. It is, however, especially upon the specific treatment of infections that I would dwell today.

Time unfortunately has shown that the number of pathogenic bacteria, the activity of which is due to soluble toxines produced by the growth of the organism, toxines to which a corresponding protective antitoxine is developed in the infected animal, an antitoxine which may be used as a specific

^{*}Bull. Acad. de Med., Par., 1880, 2s., IX, 121-134; ibid, 390-401; ibid, 527-531; ibid, 1119-1127.

^{*}Proc. Biol. Soc., Wash., 1884-6 III, 29-33.

^{*}Ann. de l'Inst. Pasteur, Par., 1888, H, 629-661: 1889, III, 273-288.

remedy or preventative against the disease, is very small and practically restricted to the bacteria of diphtheria, tetanus and the unusual disease, botulism. With the greater number of pathogenic organisms the poison is, for the most part, closely bound up with the substance of the bacteria themselves and is set free especially on the occasion of the death and dissolution of the micro-organisms.

But it was discovered that on infection with these organisms whose poisonous effects are produced in a different manner, as well as on the injection of foreign proteid substances nonpoisonous in themselves, the infected animal responds by the production of anti-bodies - cytolysins, agglutinins, opsonins, precipitins, whatever they may be called-substances the main object of which, as pointed out by Zinsser in his recent Harvey Lecture, seems to be the removal or destruction of the foreign substance inoculated. The presence of these specific bodies in the blood and the possibility of their demonstration by a variety of physical and biological procedures has led to a number of valuable methods of diagnosis, such as the agglutination tests, the precipitin test for human blood, the complement fixation tests for various infections, especially for syphilis.

The **prophylactic** introduction of sera of animals immune to infection of this class has unfortunately proved of little value, and from a **therapeutic** standpoint also, the results following the introduction of such immune sera have been disappointing.

However, in instances where the infection is localized, as in cerebrospinal meningitis, it has been found possible largely to control the infection and to save a considerable proportion of individuals who otherwise

would fall prey to the disease by the use of concentrated sera containing the antibodies, introduced directly at the seat of infection. More than this Cole has recently shown that in pneumonia where the strain of pneumococcus causing the infection is determined accurately, the introduction of a large quantity of a specific antiserum may exert a considerable curative effect.

It has, however, been shown that a considerable degree of immunity may be assured against a number of diseases, such as cholera, plague and especially typhoid fever by properly carried out vaccination with increasing doses of dead bacteria. These dead organisms set free a certain amount of poison and the animal body responds by the production of antibodies which, when after repeated injections, they have become sufficiently numerous, form a considerable protection against future infections so long as they remain present in the blood.

Yet another interesting attempt to increase the resistance of the infected animal is represented by the practice of vaccinating the already infected individual with living or dead bacilli with the idea of further stimulating the production of antibodies. method we may regard as having first been introduced by Koch in the treatment with old tuberculin. Old tuberculin, as is well known, consists essentially of an extract of the substance of tubercle bacilli, and the injection of this substance often produces remarkable local and general effects in the infected individual. It was early found, however, that large doses producing sharp reactions diminished rather than raised the resistance of the patient, and later the treatment by repeated introduction of very small quantities of tuberculin, too small to produce actual febrile reactions, has been practiced widely in different parts of the world. Although some have fancied that they have seen beneficial effects from this treatment, much however, can not as yet be said.

The work of Wright and his studies on the opsonic index have, however, lead to the widespread practice of vaccination with dead cultures of pathogenic micro-organisms in a large va-Wright believed riety of diseases. that he could show that, as the result of vaccination, the phagocytic power of the leucocytes could be increased greatly. And the hypothetical substances which increase this phagocytic power he called "opsonins." He fancied that he could follow in the blood the variations in the phagocytic activity of the leucocytes in association with the rise and fall of these protective opsonins, and governed his treatment by control observations on the blood in the laboratory.

Studies of the methods of estimating the opsonic index in this country have not altogether upheld the assertions of Wright. His original methods were too crude to justify positive, definite conclusions, and indeed even with more careful procedure, most observers have felt that it is not easy to confirm his results. The practice of vaccination in many classes of infections, without control by regarding the opsonic index, is however widespread in many parts of the world, especially in England, and there is reason to believe that in some conditions good results are to be obtained.

In connection with our studies of infection and of the mechanism of defense of the animal body, a phenomenon of great practical importance was brought to light by the observations of Richet, Theobald Smith and Arthus. As with so many other great discoveries the observation was not

new; but in the old days the significance of the phenomenon was not appreciated. Magendie* injected into the jugular vein of a dog a considerable amount of egg albumen in water without ill effect. Later (how long?) on attempting to repeat the experiment on the same dog by way of the carotid. he was surprised to find that the dog died rapidly before he had introduced more than a drachm of the fluid. Portier and Richet in 1902.* noticed that the poison extracted from the tentacles of actinia killed rapidly and in much smaller doses when introduced into dogs which, two or three weeks before, had had a non-mortal dose. Arthus* observed that horse serum injected into rabbits in repeated doses at intervals of several days produced finally grave symptoms both local and general. Theobald Smith* 1903 made the extremely important observation that in guinea pigs to which diphtheria anitoxine had been administered without demonstrable symptoms, a second dose given a week or ten days later produced instant death. Since then it has been shown that most, if not all foreign albumious substances when injected into the animal body give rise to a reaction in that organism characterized by the production of antibodies designed probably as has before been said, to destroy the foreign albumen. Now with poisonous bacteria these substances act promptly by killing the in-

^{*}Lectures on the Blood, etc., English translation, 12.8°, Phila, Haswell, Burroughs & Haswell, 1839, 247 et seq.

^{*}Compt. rend. Soc. de biol., Par., 1902, LV, 170-172.

^{*}Compt. rend. Soc. de biol., Par., 1903, LV. 817-820.

^{*}Otto (R) Gedenkschr, f.d. verstorb. Generalstabsartzt d. Armee **** v. Leuthold, Berl., 1906, I, 153-172.

vading organisms. But the process of desruction of these invaders by the antibody is unfortunately not wholly devoid of significence. As von Pirquet has pointed out, the period in the course of an infection at which these antibodies first appear and meet with and attack the poisons is associated with phenomena, fever and other general symptoms, which form probably a part of that which we recognize as the symptoms of the specific disease. If at a latter period when the protective antibodies are already present in the animal's blood, poisonous bacteria gain entrance, they are immediately destroyed before they have multiplied sufficiently to form an actual quantity of foreign albumen sufficient to give rise by their destruction to any appreciable symptoms. This von Pirquet has illustrated most beautifully in the process of ordinary vaccination. There, as we all know, in the susceptible individual, a period of seven or eight days passes before anything is observed at the site of vaccination and then, suddenly, the characteristic local and sometimes general reaction begins. During this incubation period the pathogenic invaders have been increasing in number and the human organism has been preparing its protective antibodies. When these antibodies are set free in large numbers and attack and destroy the poisonous invaders the local and general reaction begins.

Suppose, however, we vaccinate an individual who has already in his circulation the protective substance. What do we notice? Within 24 hours after the vaccination the point upon the arm swells a little, begins to itch and looks as if it might be beginning to "take," but within a very short time this abortive "take" has passed by. What has happened? The prob-

ability is that here the already present antibodies have attacked immediately the poisonous organisms which have been introduced, and destroyed them before they have been able to multiply to any considerable extent. The result has been that the amount of poison set free by the meeting of the antigen, as the poisonous organism is called, and the antibody has been sufficient only to produce a minute local lesion and no general effects.

But with the introduction of a foreign albuminous substance the question became somewhat different. Such a substance may be relatively harmless in itself to the organism into which it is introduced. It may be nonpoisonous as in the case of horse serum, for instance, in ordinary individuals, but this non-poisonous substance gives rise nevertheless to the development of antibodies, and when these antibodies have been produced, a week or ten days, let us say, after the first injection, the re-introduction of the foreign substance, if the quantity be sufficient, may result in the gravest of symptoms, even in the death of the animal. It would appear that these grave symptoms which develop on the second injection of a foreign protein are directly associated, as in the case of bacteria, with the meeting of the antibody and the antigen and the setting free of some poison. The severity of the reaction varies with the quantity of the foreign substance introduced, and the reason that the reaction may be so slight or absent in the case of bacteria and so dreadful in the case of a foreign albumen is explained probably by the small quantities of the actual albumen present on the introduction of bacteria, and the relatively large amounts which are introduced when we inject directly a foreign albumen such as horse serum.

In other words, it appears that the animal body into which foreign bacteria or albumens are injected becomes "sensitized" to these substances, that is, it contains antibodies. This hypersensitiveness to bacteria which results in the protection of the animal body we call immunity.

The hypersensitiveness toward nonpoisonous foreign albumens, fundamentally similar to that which, in the case of bacteria, constitutes immunity, may be a grave danger to the animal organism: the phenomena by which it becomes manifest on the introduction of the antigen we speak of as anaphylaxis or better, in the words of von Pirquet allergy.

I have gone into this matter at considerable length, because it has seemed to me sometimes that in the use of these new methods of prevention and treatment of disease which have brought such immense benefit and even greater hope into our practice, we are sometimes forgetful that we are dealing with procedures which may give rise to dangerous manifestations, with substances which should be used with at least as great care as that which we exercise in the use of other mineral or organic compounds of the pharmacopoeia.*

Antitoxines

Let us now consider certain specific methods of treatment, and first naturally the question of diphtheria. Now

*For the history and discussion of the subject of allergy and anaphylaxis the reader may consult the following articles: Anderson (J. F.) and Rosenau (M. J.)—Anaphylaxis—Arch. Int. Med., Chicago, 1909, III, 519-568, Pirquet (Cl. Fr. v.) Allergy, ibid, 1911, VII, 259-288; 383-440, Zinsser (H.) Harvey Lecture—To appear shortly in Arch. Int. Med. Auer (J) The functional analysis of anaphylaxis. Forchheimer's Therapeusis of Internal Diseases, N. Y. and London, D. Appleton & Co., 1914, V, 39-112.

the diphtheria bacillus as we have said, produces in the process of its growth a soluble toxic albuminous substance -the diphtheria toxine-and the animal into which this diphtheria toxine is introduced, provided the dose be not lethal, responds by the production of an antitoxine which neutralizes the poison and protects the individual. There has been no greater blessing conferred upon the human race in the lifetime of most of us here than this great discovery which nas saved so many thousands of children. How may this antitoxine be prepared? How is it ordinarily produced? As is well known, the method of production of the antitoxine used in practice consists in the immunization of a horse progressively increasing doses toxine. When the highest degree of immunity is reached the horse is bled and the serum obtained and standardized in such a manner that the exact strength may be known. It is measured in units, a unit being that amount of antitoxine, 1 c.cm. of which will neutralize one hundred times the fatal dose of toxine for a guinea pig of 500 grammes. As is well known, the mixture of such an antitoxine with a bouillon solution of toxine in proper quantities will in great part remove its Furthermore, the injection toxicity. of a sufficient quantity of antitoxine into the human being will render him immune for a certain period of time to infection with diphtheria bacilli. And more than this, unless the disease has progressed too far, the injection of a certain quantity of antitoxine will soon interrupt the course of an already acquired infection.

From a prophylactic standpoint various recommendations have been made as to the quantity of diphtheria antitoxine which should be given, but the careful studies of Schick have made it fairly clear that a dose of 50

units per kilogramme (2 and 1-5 pounds) of body weight is sufficient in almost all instances.

Now in the treatment of an actually existing diphtheria, the doses of antitoxine given have varied very greatly. Because of the neutralizing relations of toxine and antitoxine, the assumption has been made that enormous and repeated doses should be given in order to counteract any possible subsequent toxine production in the body, and huge doses have been administered, not only singly but repeatedly with intervals of several days, and often with apparently brilliant effect.

But the use of diphtheria antitoxine is unfortunately associated with certain distinct inconveniences and indeed with some danger, for after all one must remember that it is not only the antitoxine that one is administering, but antitoxine in solution in horse serum, a substance harmless in itself on the first dose in the immense majority of individuals, but yet capable of causing the formation of antibodies in the patient to whom it is administered, so that at a sufficient period later, reinjection finds the patient sensitized with the result that inconvenient or grave symptoms may result. And this is sometimes observed in the administration of horse serum to patients. Ordinarily an injection of horse serum containing antitoxine produces no unpleasant immediate results, but not infrequently a week or ten days afterwards, there appears an annoying urticaria, sometimes patches of oedema, sometimes joint pains, together perhaps with a little fever. symptoms are however, usually transient and soon pass by. Let us, however, suppose that ten days or two weeks after this first injection of diphtheria antitoxine in horse serum a second dose is given. Almost immediately upon the introduction of this second dose symptoms follow which may be all the way from merely distressing and inconvenient manifestations to grave and even dangerous occurrences. The patient may have extensive oedema at the point of injection, a general urticaria, nausea, vomiting, rapid pulse, dyspnoea, perhaps grave asthmatic symptoms, syncope and even death. In the adult where the quantities of horse serum introduced are relatively small compared to the size of the individual, the symptoms are usually more inconvenient than dangerous: nevertheless there grounds for caution.

What has happened? In the first instance, what is commonly called serum disease has occurred. The introduction of the foreign serum has produced the reaction in the body to which we have above referred—the production of specific antibodies to the horse serum; but these arise so slowly that at the time when they are set free the amount of foreign serum in the blood is slight; indeed, it may be entirely absent. If it be present in slight quantities the result of the meeting of antigen and antibody is evident usually in mild, transient symptoms such as those to which we have referred. But if a large dose of foreign serum be introduced into an animal or human being a week or ten days after a previous injection of the same serum, i.e., into an organism already sensitized and containing a considerable quantity of specific antibodies, then the meeting of antibody and large quantities of antigen may set free a large amount of poison and grave manifestations of anaphylaxis or allergy occur.

Now if one remembers the observation of Arthus to which I referred before, namely: the frequent occurrence of oedema and grave symptoms in guinea pigs on repeated injection with a foreign serum after some days of intermission, one can readily see that this is exactly what one might expect in human beings. We might well ask ourselves whether, with the repetition of doses of diphtheria antitoxine after a few days of intermission, similar unpleasant symptoms might not occasionally occur; and it is true that they sometimes do.

Fortunately, however, the researches of Schick* and others have shown clearly that these repeated doses The chief value are unnecessary. of antitoxine is in its immunizing It has some neutralizing influence on a toxine introduced from three to six hours before, but only a little. The great effect is upon toxines introduced at the same time or developing later, and careful studies have shown that while very large doses, perhaps as large as 500 units per kilogramme of body weight, may have a maximal effect if there be a large quantity of toxine present at the time of introduction, yet in all ordinary cases 100 units of antitoxine per kilogramme of body weight gives the maximal effect. And furthermore, and this is very important, it is never necessary to repeat the dose—a single dose is sufficient.

In a given case of diphtheria then, the antitoxine should be given so soon as possible, and the proper dose is 100 units to the kilogramme of body weight in ordinary cases. It should be given by deep intramuscular injection. In the most severe cases 500 units per kilogramme may be administered. That is, in a child of twenty kilogrammes (44 pounds) 2000 units will be enough in 90 per cent of the cases. In very severe instances, how-

ever, 10,000 units may be given. In an adult weighing 60 kilogrammes (132 pounds) 6,000 units is usually sufficient, but in very severe cases 30,000 units may be given. It is never necessary to repeat the dose. In the words of Schick, "repeated doses should be abandoned as wholly superflous."

But when this has been said, we have still to bear in mind an extremely important circumstance, and that is this—a certain small proportion of individuals possess an extraordinary hyper-susceptibility toward horse serum as a natural peculiarity, while others have become hypersusceptible as the result either of a previous injection of diphtheria antitoxine or of horse serum for some other purpose. In such individuals the introduction of any appreciable quantity of horse serum may produce symptoms of the utmost gravity. These symptoms may be rapid, almost immediate, varying from vertigo, dyspnoea, tachycardia, syncope, cessation of respiration and death, to the lesser symptoms of oedema, urticaria, nausea and other symptoms of serum sickness. severe and dangerous manifestations of hypersusceptibility are very rare, and yet they do occasionally occur. Those individuals who are naturally hypersusceptible are commonly sufferers from asthma, hav fever, rose colds or subjects of urticaria or angioneurotic oedema. One should always inquire into the history as to these conditions before administering antitoxine, and, in an asthmatic subject, every precaution should be taken.

To make the point clearer let me mention a few specific instances. Seventeen years ago while treating some cases of diphtheria I had a preventive inoculation of about 1000 units of diphtheria antitoxine in per-

^{*}Schick, (B), Kassowitz (K.), and Busacchi (P): Ztschr. f. d. ges. exper. Med., 1914, IV, 83-148.

haps 5 c.c of horse serum. About six months later another child with diphtheria coughed into my eye. Again I took a prophylitic dose. Almost immediately, at the seat of inoculation, a violent urticaria began. This spread over my entire body and was associated with nausea, headache and considerable prostration, which lasted for two days—a good example of the ordinary manifestations of allergy in an adult as the result of a previous injection of serum.

A child, I think under five years of age, the daughter of an old friend of mine, an assistant in the pathological laboratory in Berlin, was given in the early days of the treatment, an injection of diphtheria antitoxine and died instantly upon its administration.

Diphtheria developing in a family, the Health Warden of the district gave preventive doses of antitoxine to all members of the household without consulting the family physician. One of the children died instantly upon receiving the injection.

A year or two ago diphtheria appeared in a well known boys' school in the north. A general preventive inoculation was carried out. One of the boys came in from the foot ball field, was given his injection, started back toward the field, suddenly felt dizzy and faint, had a peculiar suffocating sensation and in a few minutes was dead.

Such instances as these latter are among the most awful experiences of medical practice, and such possibilities, rare though the event may be, are quite enough to make one hesitate to use such a method of treatment

Can we avoid such manifestations? If so, how?

Happily it is perfectly possible to avoid them, and no one, in the present state of our knowledge, is justified in giving a prophylactic dose of antitoxine without taking certain definite precautionary steps. In the first place the studies of Schick of Vienna* have given most interesting us and valuable methods of testing the susceptibility of an individual to diphtheria infection. It is well known that many individuals may be exposed to diphtheria without acquiring it, and Schick has given us a method of detecting these individuals who are truly insusceptibile to the disease. It has been shown that the introduction of a small quantity of diphtheria toxine into the skin produces within 24 hours a local reaction similar to that occurring in a positive tuberculin test, and dependent upon the irritating qualities of the toxic substances introduced. Such a reaction occurs only in those subject to the disease, i.e., individuals who do not possess antitoxine in their circulation. These interesting observations have been confirmed by Park, Zingher and Serota,* by Kolmer and Moshage* and by to diphtheria toxine (Schick's test) are immune, insusceptible to diphtheria and need no prophylactic treatment.

Studies of the susceptibility of individuals of different ages carried out by Park, Kolmer and Schick show, if we combine their statistics, the following interesting figures:

Percentage of susceptible individuals Positive reactions

| Age | | |
|------------------|-----|------|
| Under one year13 | per | cent |
| 1557.8 | per | cent |
| 5-1050.1 | per | cent |
| 10-15 | per | cent |
| Over 15 26 | per | cent |
| | | |

^{*}Meunchen. Med. Wchnschr., 1913, LX, 2608-2610.

^{*}J. Am. M. Ass., Chicago, 1914, LXIII, 859.

^{*}Am. J. Dis. Child, Chicago, 1915, IX, 190-204.

Incidence of diphtheria according to age. 14,000 cases (Kolmer.)

| Age | | |
|--------------------|-----|------|
| Under one year 3.2 | per | cent |
| 1-545.4 | per | cent |
| 5-1032.2 | per | cent |
| 10-15 8.1 | | |
| Over 15 11.4 | | |

This shows that in at least fifty per cent of individuals preventative inoculations are wholly unnecessary.

The method of performing the test is simple. The amount of toxine to be introduced should be from one-fortieth to one-fiftieth of the minimal dose of diphtheria toxine lethal for a guinea pig in four days, so diluted (Schick & Park) as to be contained in from .1 to .2 of a cubic centimetre. The toxine unfortunately deteriorates very rapidly and must be made fresh, so that the test is only possible where one is in touch with a reliable laboratory. But if, as seems certain, the value of the test is upheld, health departments local and central, will have to make arrangements to supply the necessary substance.

Kolmer's directions for making the test are as follows:

"The injection is made intracutaneously by pinching up a fold of skin between the index finger and thumb and inserting the needle into the epidermis. As the injection is made a whitish spot develops and a slight stinging pain is felt; if this raised anaemic area is not seen the injection is prorbably too deep and unsatisfactory.

A very fine needle (No. 26) and a perfectly adjusted syringe are necessary. We have used with much satisfaction the Ricord and Fournier's tuberculin syringes. Platium iridium needles are especially useful, as they are readily sterilized in a flame and are thus adapted for giving a large series of injections.

Injections are readily given in the skin of the arm near the insertion of the deltoid muscle after cleansing with alcohol and drying the skin.

THE REACTION—This appears in from twenty-four to forty-eight hours after injection and is charterized by an area of erythema with a brownish tinge measuring from 0.5 to 2 cm. in diameter and accompanied by slight oedematous infiltration of the underlying tissues. In colored persons the ervthema can usually be although not always sufficiently well to measure, but the oedema is readily palpable. The reaction usually reaches its height in from forty-eight to seventy-two hours and then begins to fade within a week or ten days, accompanied by some itchiness and usually followed by a brownish pigmented area of some days' or weeks' duration. A slight superficial scaling, due to the necrosing effect of the toxin on the superficial epithelial cells is generally noticed. In the majority of instances there is no general reaction."

Kolmer gives a dose less diluted than do Schick and Park, using one-fortieth the minimal lethal dose of toxin so diluted with sterile salt solution containing 0.25 per cent phenol that it is contained in 0.05 c.c. He feels that with the smaller amount of fluid less trauma is produced and less doubt exists with regard to the reaction. The full details may be found in Kolmer's excellent article in the March number of the American Journal of Diseases of Children.

The test may be made by means of von Pirquet's scarifier, but Kolmer prefers the intracutaneous method.

In such a manner then, we may gain rapid information as to the susceptibility to diphtheria of any given individual. In a large proportion of individuals prophylactic treatment is, thus, unnecessary.

But suppose prophylactic treatment seem desirable, what steps should we take to avoid a possible allergic reaction?

One should always make a preliminary injection of one to three drops of antitoxine and wait from onehalf to two hours to observe its If there be no appreciable result one may safely administer the desired dose. If, on the other hand, there be a sharp reaction of urticatria or oedema, or if, as rarely occurs, there be general symptoms one must take other steps. If there be merely urticaria and oedema at the seat of injection, after one-half to two hours or less one may give a second dose of one c.c. and then, after a second period of two hours, the full dose may safely be given, for it has been shown that a desensitization may be rapidly carried out.

If graver symptoms, such as vertigo, have occurred, it may be safe to give after the first dose, several gradually increasing injections at one or two hour intervals before giving the sufficient dose.

If, however, grave symptoms occur on the first introduction of a drop or two, vertigo, fainting, dyspnoea, nausea, tachycardia, oppression, asthmalike manifestations, one may consider the advisability of omitting further attempts at prophylaxis. But if the exposure has been serious it will probably be safer to continue with increasing doses as has just been advised. One may adopt, as the first step, the procedure advised by Besredka of giving 50 c.c. of antitoxine by rectum.

Suppose, however, that we are in the presence of a fairly developed case of diphtheria. Should we hesitate to give a full dose immediately? We

should, I think, always try a preliminary injection of a few drops of antitoxine and wait one-half to one hour. The length of time for desensitization in such cases is not very great, and the risk is too large.

A most distressing example came to my attention but a few days ago. My friend, Dr. Thomas F. Branson, of Rosemont, Pennsylvania, was called to a neighboring college to see a student with diphtheria. As soon as the diagnosis was established, to use his own words. "Steps were taken to give the specific treatment. As has been my habit for many years, after the introduction of the needle, about 2 to 4 minims of the antitoxine were injected. I then wait for twenty minutes to note untoward effects. In the present instance after about five minutes there was a sudden blanching of the face, pupils were much dilated, lips white, pulse which had been about 90, rose to 120 and was thready, respirations were slow, shallow and sighing. The patient's complaint was 'I cannot breathe.' Consciousness was not lost. * * * * * "In about half an hour all symptoms had passed. A few hours later the patient was seen with Dr. McCrae in consultation, and it was determined to give a few minims as a second dose, in the belief that the factor of danger in this case would have been overcome by the earlier administration. About 12 c.c. of serum containing 3000 units of antitoxin were given at this time, the administration consuming a period of about one and a half hours. No physical signs were present during the second injection. Subsequently about 9000 units were given or in all a bulk of perhaps 50 c.c. of serum. At none of the subsequent injections was there any systemic reaction." It is highly probable that in this instance the patient's

life was saved by the prudence of her judicious attendant.

If by chance we should meet with a patient who shows a high degree of hypersensitiveness to a very small amount of horse serum, one may hesitate in attempting further treatment. But just such an experience as this would tempt one to make the attempt if the case were truly urgent. In such cases we should proceed with gradually increasing doses at half hour intervals till the full dose be given. Or if it seem wise, one may at first try a rectal injection of 50 c.c.

If, then, we bear this possible danger in mind, and if we remember that 50 units per kilogramme of body weight is a sufficient prophylactic dose, and that 100 units per kilogramme of body weight is a sufficient therapeutic dose in all ordinary cases of diphtheria, excepting in very grave instances where 500 units per kilogramme may be given, and lastly, if we remember that a single dose is quite sufficient and that additional doses are not only unnecessary but unwarranted, we shall be in position to obtain the greatest possible benefit from this most valuable and truly specific method of treatment.

A consideration of the phenomena which occasionally occur as a result of the administration of diphtheria antitoxine should impress upon us very strongly the truth that the introduction of a foreign serum into the human organism is by no means a simple procedure or one that is to be entered into carelessly.

The one other malady for which we possess a true specific antitoxin is tetanus, but unfortunately the treatment is rarely efficacious after the symptoms have appeared for the reason that the poison has passed rapidly upward through the nerves into

the central nervous system and has attacked the ganglion cells of the nervous centres. At this period, injection of antitoxine has little effect. Von Behring* advises a prophylactic subcutaneous dose and, if the wound continues angry, a local injection at the seat of infection.

Von Behring further advises, if the disease has already broken out, a local injection at the point of infection as well as an injection intravenously. He also advises the introduction of antitoxine into the nerve trunk leading from the region of the wound. But this is not easy to do and recent observers have reported remarkably good results from the early introduction of antitoxine by lumbar puncture. In this manner the antitoxine not only rapidly reaches the nerve centres but also enters the general circulation, while when introduced into the general circulation, it does not reach the nervous centres in any appreciable quantity.

Park* advises as an immunizing dose the immediate injection of 1000 units of antitoxine and it may be well to follow Von Behring's advice and to give a little more at the site of the wound.

In the treatment of an actual case of tetanus Park advises the intraspinous injection of 500 to 2000 units in a child according to its size and of 3000 units in an adult. The amount of fluid should be as large as may be injected without producing pressure symptoms—5 to 20 c.c. In addition to the intraspinous injection, Park advises intravenous treatment, the dose amounting to 2000 units for ten

^{*}Deutsche Med. Wchnschr., 1914, XL, 1956.

^{*}Forchheimer's Therapeusis of Internal Diseases, N. Y. and London, Appleton, 39, 1914, V, 469 et seq.

pounds of body weight. These two injections, he says, practically suffice for the antitoxine treatment, as the blood will remain strongly antitoxic for five days.

It goes without saying that before giving a preventive dose of tetanus antitoxine the same precautions should be taken which are taken in administering horse serum with diphtheria antitoxine. It is fair to say, however, that if we meet with an instance of already established tetanus there is no time to spare and most of us would prefer to take the risk in making our injection immediately.

Antisera

Now let us consider for a minute what we may do to combat infections with those organisms, the deleterious effect of which is not due primarily to soluble toxines. Here, as has been said, the infection is normally brought to an end by the development of antibodies -precipitins, agglutinins, bacteriolysins, opsonins—whatever they be called, which tend to favour the destruction of the infecting organism. Unfortunately, it is apparently true here that in order to produce any effect sufficient to be of geat value, the antisera have to be introduced in quantities so large as to make effective treatment very difficult or impossible.

Few results worthy of serious consideration have been obtained in severe general infections. In cerebro-spinal meningitis, however, where the infection is localized, we have a most valuable method of treatment, which consists in the repeated introduction of the antiserum directly into the cerebro-spinal canal—the seat of infection. The antibodies are thus able to reach the seat of infection in a degree of concentration sufficient in

a considerable proportion of cases, to bring about a satisfactory result.

Moreover, in bacterial dysentery results of some value have been obtained by early, large and repeated doses of antiserum, especially in small children. The use of antisera in most other general infections has, however, proved disappointing. In cholera, in plague, in typhoid fever little has been accomplished. Attempts have been made to produce antistreptococcus sera, but without satisfactory results. One reason possibly is the circumstance that there are many varieties of streptococci which with our present methods. it is impossible to recognize and distinguish.

Polyvalent sera have had little better results; and I am unaware of any thoroughly satisfactory evidence of the essential value of any of these antisera. Nevertheless, it is conceivable that in streptococcus infections if it were possible to identify just the strain of organism and to introduce a sufficient quantity of an immune serum, some help might be obtained.

In pneumonia, thanks to the researches of Cole, Dochez and others,* some progress seems to have been made. As you know, Cole has distinguished four main types of pneumococci which may be distinguished by laboratory methods. In two of these forms special antisera have produced apparently an appreciable result, but here at present the doses of serum have to be very large. The effort is now being made to find some method by which this and other difficulties may be obviated.

In all these maladies again,

^{*}Dochez (A.R.) and Cole (R.I.) Pneumococcus Infection: Forchheimer's Therapeusis of Internal Disease, 8°, N. Y. and London, D. Appleton & Co., 1914, V, 472-508.

wherever the question of the introduction of a foreign serum arises, the same precautions should be taken. Where there is a serious question as to whether the introduction of the serum is going to be of any value, we should be much more careful about taking risks. We should always remember the possibility, slight though it may be, that one may meet with an hypersensitive patient. One should never administer a large dose of such serum to an individual with a history of asthma: one should always ask whether there has been previous hypodermic treatment with horse serum. and if this is the case, one should proceed carefully with minute and increasing doses at short intervals.

Vaccines

Prophylaxis—But it is not only by the production of a passive immunity through specific antitoxines and antisera that we may seek to combat disease. The oldest prophylactic methods have been attempts to produce active immunity by means of the production of the disease itself under favorable conditions, as in the old inoculation for smallpox, or by vaccines with attenuated cultures such as is practically the case in cowpox or in the vaccination introduced by Pasteur in Chicken cholera and in anthrax. In more recent times, following the observations of Pfeiffer, attempts have been made to produce an active immunity in a variety of diseases by the introduction of dead cultures of the specific organism in increasing doses. Thanks especially to Wright, the value of such vaccination against typhoid fever has been shown to be very great. the results in the United States Army having been especially creditable and striking. The same is true to some extent in various other diseases: vaccination with dead cultures gives a certain degree of immunity against cholera and plague and dysentery, and it is not impossible that improved technique may offer material protection against many of the more dangerous epidemic fevers.

In most of these conditions there is no material danger in the procedure of vaccination provided the quantity of organisms introduced is not too great, and provided the vaccine has been properly prepared. At the present moment the gravest danger would appear to lie in the rare but occasional contamination of smallpox vaccine with tetanus, and the possibility that the vaccine may be, as we have indeed observed recently in connection with a certain typhoid vaccine put forth by a reputable firm, quite inert.

Vaccine Treatment

But another question has arisen in recent years which is of considerable importance in the practice of medicine today, and that is the question of the possibility of the use of vaccines in the treatment of existing diseases. The principle on which vaccination in the treatment of infectious diseases has been introduced is that of stimulating the organism to produce protective anti-substances quicker and more thoroughly than it has been doing, and thus to hasten the end of the infection. This is accomplished by introducing an additional dose of the poisonous organisms already present in such condition, however, that they are incapable of further propagation. treatment would seem to be especially reasonable in localized infections of moderate extent, or in infections from which perhaps the bacteria enter into the blood only at intervals. Here an extra impulse to the formation of anti-

bodies given by vaccination, might reasonably be expected to give additional powers of resistance to the organism. But if the process be a severe general infection where the fight between the invader and the host is still undecided, one may well ask the question whether the introduction of an additional quantity of the poisonous antigen (in such cases the infecting bacteria) may not be a rash or dangerous procedure; for why should we not, in this manner, and strength to the already threatening intoxication; why might not our very interference be that which finally decides the day in favor of the infectious agent? How can we tell that our small contribution may not be just the reinforcement which is necessary to give the battle to the enemy?

These are the thoughts which naturally come to the mind of the serious man who considers the question of vaccination as a therapeutic procedure. All of us who lived through the excitement associated with the production of tuberculin cannot fail to have seen the harm which may be done by a procedure which is practically a vaccination; and the possible danger of diminishing rather than increasing the resistence of the patient, that which according to Wright actually occurs during a brief period following vaccination, should be seriously considered. But with or without control by study of the opsonic index, vaccination with dead cultures of the infecting micro-organism has given apparently encouraging results in a variety of different conditions.

The most satisfactory results, I should say, have been in the treatment of local infections with staphylococci, especially in acne, furunculosis and rosacea. Here good influences are often obtained by the use of vaccine

prepared from cultures made from the seat of infection, that is the so-called autogenous vaccines.

A good deal has been written with regard to the treatment of complications of gonorhoea by autogenous vaccines, but outside of infections with staphylococci there are grave differences of opinion as to the value of the results which have been obtained.

Tuberculin, of course, has been widely used, and there are observers who feel that some increase in the resistance of the patient may be induced by the very careful administration of gradually increasing doses. All observers who have studied this matter deeply are in agreement, however, that such treatment demands very careful oversight by a trained observer.

Vaccination has been practiced in many different conditions. Some observers have thought that they have had good results in the treatment of local colon infections, cholecystitis. pyelitis, cystitis; others feel that some results have been obtained in the treatment of chronic bronchitis. some instances the vaccination of typhoid carriers has apparently been successful. Few have had reliable results from vaccination with pneumococci or streptococci, although there are those who have fancied that they have seen improvement in some instances of arthritis supposed to be dependent upon local foci of streptococcus, especially s. viridans infection.

Exactly what we may hope to obtain from vaccination as a therapeutic measure has been admirably expressed by the greatest authority on this subject in America. Theobald Smith* says: "All parasites tend to increase the

^{*}An attempt to interpret the present day uses of vaccines. J. Am. M. Ass. Chicago, 1913, LX, 1591-1599.

resistence of the host in which they live and multiply. Out of this universal fact a number of practical problems arise. In any given disease is it worth while to try to raise this immunity, and how much energy will it cost the patient? If worth while, what is the best and most sparing way of raising such immunity artificially? In any localized infection we must ask: Is this a beginning process without attendant immunity, or is it a residual process associated with general immunity? If the latter, vaccines may be considered safe. In processes associated with fever and bacteriemia, science says: Hands off! until we know whether we have a progressive disease with gradual undermining of the resistance or a more localized affection in which the excursions into the blood are secondary. In any case the use of vaccines in these cases must be regarded as experimental, and should not be undertaken save by one trained in immunologic problems.

Judged from this point of view, as well as from the work of the laboratory as a whole, we should say that vaccines applied during disease will be rarely, if ever, life saving, but they may hurry a stationary or languid process which tends towards recovery, by bringing into play the unused reserves of various tissues."

It is easy to see from this that vaccination may be associated with real danger, and alas, I have seen clinical evidence of its ill effects more than once. It is of vital importance for us to remember that in introducing into the human being cultures of poisonous micro-organisms we are playing with dangerous arms; that our first duty is to avoid doing harm. We should remember that the very first step in the treatment of a given case by therapeutical vaccination should

be the careful bacteriological study of that case, and a thorough understanding of the nature of the infection; that it is useless and worse than useless to vaccinate an individual with an organism which is not that causing his disease; that only under rare and occasional circumstances is it justifiable to vaccinate with any but an autogenous vaccine.

Within a few years, however, certain manufacturing houses have placed upon the market a number of bacterial vaccines which they rashly recommend as efficacious against a number of diseases, and notably against various forms of arthritis.

Now what conditions could justify us in using a vaccine in the treatment of a case of arthritis?

First, we should be assured that the vaccine is made from the microorganism which is causing the disease; secondly, we should be assured that the use of the vaccine will not be harmful and thirdly, we should have at least a reasonable assurance that there is a likelihood that its use will be beneficial.

But the determination of the exact bacteriological cause of a given instance of arthritis is usually an extremely difficult matter, involving long and complicated bacteriological studies which can be carried out only in association with a good laboratory and a trained student, and even then it is usually only a matter of inference. Suppose, however, we have good reason to believe as a result of cultures from the blood or from the affected joints or existing local foci, that the arthritis is due to some form of streptococcus or pneumococcus infection; should we then be justified in using a stock vaccine? Under no circumstances, for we have no proof whatever that the organism is of the same

strain as that from which the stock culture is made.

But suppose we have, after all, produced an autogenous vaccine, are we then safe in using this? Is there any danger of doing harm in the treatment of such a patient? The danger of doing harm may be little in some instances of chronic afebrile arthritis, but when we come to an acute arthritis with fever we must bear in mind that some of these conditions are also associated with a septicaemia and a complicating endocarditis in which the balance between attack and defense may be very delicate, and in which the introduction of an autogenous vaccine unless it be very carefully administered, may result in diminishing rather than increasing the resistance of the individual. I remember two cases of slow, chronic vegetative endocarditis due to streptococcus viridans one of them with arthritis. which the clinical course clearly indicated that the sharry reactions following a vaccination had been the definite turning point of the malady towards its fatal issue. One can at the most say that vaccination in arthritis is in an experimental stage. and, although, in some instances, we may yet desire to make the experiment, it should be undertaken only on consultation with, and under the direction of one skilled and experienced in these methods of treatment. use of stock vaccines in the present state of our knowledge in any form of arthritis is a rash, dangerous and unwarrantable procedure, unscientific and unjustified from a standpoint of clinical experience, despite the assertions of the manufacturing pharmacists. The physician who allows himself to be led by the advertisements of manufacturing pharmacists is not a safe practitioner of medicine.

I speak of these anti-rheumatic vac-

cines only as an example. The same consideration apply to the employment of most stock vaccines with the single exception perhaps of staphylococcus vaccine as employed in acne and furunculosis, where in the absence of the **possibility** of obtaining an autogenous vaccine, one would not perhaps condemn wholly their careful trial.

Let us not forget that therapeutical vaccination is still in an experimental As Professor Pearce* well stage. puts it: "Prophylactic vaccination rests on a sound scientific basis of experimental study and clinical observation. * * Curative vaccination has no sound experimental basis, but the application of the general principles of immunity as well as clinical observation offers a plausable basis for the treatment of localized, more or less chronic infections, and of 'carriers.' On the other hand, no satisfactory basis is at hand for curative vaccination in the acute, self limited diseases characterized by general dissemination and systemic infection. All attempted vaccinations in this group must be considered as purely experimental."

Therapeutic vaccination is then a method of treatment into which the physician is not, as a rule, justified in entering without expert advice, and this has been well said by Wright* the therapeutic use of vaccines—methhimself, who observes that vaccine therapy demands "a man who has spent years of study to master the technique, to know how to make the vaccines, to know which are the most important microbes, to know how to isolate them, and most

^{*}J. Am. M. Ass., Chicago, 1913, LXI, 2115-2119.

^{*}Quoted from Pearce, op. cit.

of all, a man with sufficient experience and ability to apply all these things."

But I have allowed myself to ramble too far already in these therapeutical reflections. What I have desired to do is to point out the great steps forward that we have been making toward a true, specific therapy of many diseases; but I have also wished to emphasize the truth that these methods of treatment are for the most part delicate, and must be applied thoughtfully, carefully and with full realization that there are dangers. rare though they may be, involved in their use, just as there are dangers in the use of any drug; and I have wished especially to insist that certain other methods of treatment, especially the therapeutic use of vaccines—methods still in an experimental stage, and in many instances unquestionably of an extremely delicate nature, have unfortunately become prematurely popularized and are being practiced today in an unscientific and dangerous manner-in just such manner as tuberculin was used twenty odd years ago. While the practice of prophylactic vaccination has, in some instances, become a safe, useful and well established procedure, vaccination as a therapeutical measure is still, with a few exceptions in an experimental stage, and is justified only under the direction and with the advice of a skilled bacterioligist and serologist: vaccination is not as a rule a method of treatment which the unaided clinician is justified in employing.

Let us not mar the really great scientific progress of the last thirty years—progress which has given us so much and from which we may expect so much more—let us not mar these great gains and endanger further advance by rash, hasty and unscientific practical generalizations.

THE CONTACT IN DIPHTHERIA.

By G. McF. Mood, M. D., Charleston, S. C.

OR a number of years now it has been pretty generally recognized that the diphtheria contact is of greatest importance in diphtheria epidemics. These contacts together with the many other healthy individuals not supposedly contacts having been shown to harbor in their noses and throats virulent diphtheria organisms. Thus Park, in connection with Beebe, in 1894, examined the throats of 330 healthy persons who had not come in contact as far as known with diphtheria and found virulent bacilli in 8, two of whom later developed the disease. In 24 of the 330 healthy throats nonvirulent bacilli similar to virulent diphtheria bacilli were found. Again, in 1905, Von Sholly, in the laboratory of the New York Health Department, examined 1,000 throats of those who had not knowingly been in contact with diphtheria and found virulent diphtheria bacilli in .5 per cent of the Whether these observations were made while diphtheria was prevalent was not noted in the article from which these facts were obtained. Again, Graham Smith found that 66 per cent of the members of the family to which the diseased person belonged were carriers; the proportion being higher in families in which no precautions were taken to isolate the sick and much lower, 10 per cent, where proper precautions were taken. Of the more distant relatives examined 29 per cent were found to be carriers. Bacilli were found in 37 per cent of attendants upon the sick. Observations of the inmates of hospital wards

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

and institutions in the presence of diphtheria cases showed 14 per cent of positives. In infected schools 8.7 per cent of the scholars were found to be bacillus carriers. In New York Scholly examined 1,000 children from tenement districts and found 18 with virulent and 38 with non-virulent bacilli. Slack, Arms, Wade, and Blanchard took cultures at the beginning of the school year from about 4,500 pupils in the Brighton district, Boston; diphtheria not prevalent at the time; nevertheless at least 1 per cent of all these healthy school children were found to earry morphologically typical diphtheria bacilli. This 1 per cent is considered the average ration of diphtheria bacillus carriers in the population at large. The danger of such carriers is rather problematic, most of these strains having little or no virulence; and it is not likely that the virulence of such strains may be raised by passage through a susceptible individual; though Bomstein is quoted by McFarland as having found it possible to bring back the virulence of non-virulent diphtheria bacilli. dangerous carrier is he who harbors a virulent strain which he usually obtains from a patient ill or convalescent or from a third person who has come in contact with the patient.

The question of isolation of this large number is unsettled, for at the present time it seems impractical to stamp out diphtheria from large cities by the isolation of all carriers, when dependence is placed in morphological diagnosis alone, as some harmless organisms in the nose and throat appear like the diphtheria bacillus.

On the other hand the control of diphtheria outbreaks in institutions, camps and similar places where a number of people are crowded together, as well as the control of epidemic in cities and towns depends eventually upon the recognition of carriers and their isolation. This isolation of both cases and carriers is the most important and radical of our preventive measures.

The length of time required for the disappearance of diphtheria bacilli from the throat and noses of patients and contacts varies greatly. Beebe and Park in the study of 605 consecutive cases of diphtheria found the organisms to disappear in the following time:

304 within 3 days after the disappearance of the membrane.

176 within 7 days after the disappearance of membrane.

64 within 12 days after the disappearance of the membrane.

36 within 15 days after the disappearance of the membrane.

12 in 3 weeks after the disappearance of the membrane.

4 in 4 weeks after the disappearance of the membrane.

2 in 9 weeks after the disappearance of the membrane.

In some instances virulent organisms may remain for months, thus Hewlett and Nolen observed diphtheria bacilli in the throats of patients 7, 9, and in some cases 23 weeks after convalescence. Jordan states that fully virulent germs have been found in a child's throat for as long as 335 days after the cessation of clinical manifestations.

Park reports a case in which they persisted with full virulence for 8 months. It is extremely difficult to prove that a case is absolutely clear for as Park has pointed out the bacilli may remain hidden in the epithelial cells of some tonsillar crypt and not be detected by cultures.

The following data is offered merely as a link in the chain which in many

tacts.

respects is already complete, and which binds the diphtheria contact to the various fresh outbreaks of the disease.

From January 1, 1914 to April 16, 1915 there were examined for the presence of diphtheria bacilli at the bacteriological laboratory of the Health Department of Charleston, S. C., 1554 throat and nose cultures: Findings as follows,

424 were primary cultures; 1139 were repeat cultures.

Of the primary cultures 152 or nearly 36 per cent were positive.

272 or about 64 per cent were negative.

105 were from cases of diphtheria. 47 or nearly 31 per cent were con-

In all 98 contacts were examined and of these 47 or nearly 50 per cent were positive, that is carriers and a menace to their associates. It is of interest to note the duration of the organisms in the noses and throats of these 105 cases and 47 contacts. The average duration of organisms in the throats or noses or both of the 105 positive cases was 31 days, the organisms disappearing in the following ratio (time taken from positive culture in each case.)

Bacilli disappeared in 7 cases within 10 days.

Bacilli disappeared in 27 cases between 10 and 20 days.

Bacilli disappeared in 48 cases between 20 and 40 days.

Bacilli disappeared in 14 cases between 40 and 60 days.

Bacilli disappeared in 4 cases between 60 and 70 days.

Bacilli disappeared in 1 case between 80 and 90 days.

Bacilli disappeared in 4 cases between 95 and 158 days.

The last four cases harbored the organisms for 95, 102, 108 and 158 days

respectively. The shortest duration as a carrier noted was four days.

The average duration of organisms in the throats and noses of the 47 positive contacts was 16.5 days. We believe that the percentage of positive contacts observed would have been much larger had these been examined earlier during the course of the disease in the patient with whom he came in touch. Also the duration of these contacts as carriers, we are convinced, was longer than the average given; for the reason that most of the contacts being quarantined at the time of the outbreak in the homes, and there being nothing to be gained by the physician from a bacteriological examination of them, this was delayed in a large majority of the cases until at least one negative culture had been obtained from the patient.

The duration of 16.5 days as a carrier under the above condition necessitated in many cases the quarantining of the contact, he continuing to harbor the organisms without being himself infected, for days or weeks after the original case had ceased to be a menace. For example: two contacts, in one of the above cases, which itself became free of organisms in 32 days, continued to harbor diphtheria bacilli for 29 and 37 days respectively, after the discharge of the original case.

The belief that leaving out the patient himself the contact plays the most important and in many instances the only part in the spread of diphtheria, is so firmly fixed in the minds of our best sanitarians that stringent laws in regard to them are enforced in many places.

In closing I desire to substantiate the above by outlining in a few words the prophylactic measures as advised by Chapin and Jordan.

Chapin says in regard to diphtheria

"Thorough washing and cleansing is far more important than any kind of fumigation, and there is no use in fumigation unless we are sure there are no diphtheria germs in any member of the family. This department does not do any fumigating after diphtheria, even on request, unless two negative cultures are obtained from the throats and noses of every member of the family. If germs are found quarantine is continued until they disappear."

Jordan writes "it should be clearly recognized that diphtheria is kept alive in the community, and fresh outbreaks lighted up chiefly by infected individuals who mingle with their fellows." (These carriers themselves remaining well.)

Acknowledgement is made of the use of the following:

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PLAGUE.

By J. H. Taylor, M. D., Columbia, S. C.

N VIEW of the recent epidemics of the Plague or Black Death in California and Louisiana any sidelights on its history should prove of interest to medical men, though most of us have not even a passive interest

in anything of an historical nature relating to our profession.

Numerous epidemics have swept the world since the disease was first accurately described by Rufus of Ephesus about 100 B. C. It has been estimated that during the epidemics of the four-teenth century, at which time it was first called the Black Death, twenty-five million people died of this disease.

The particular point, however, that interests us most of all is the light in which this disease was viewed by the Ancients, whom we commonly look upon as rather primitive in their medical ideas. In an article, "The Possible Cause of Sickness Amongst the British Troops in South Africa," published in 1899, by Dr. Louis Sambon, of London, who as recently as last fall was our guest in South Carolina, was pictured a very interesting coin of the Emperor Lucius Severus which had been struck in Pergamum, Asia Minor, during a severe outbreak of the Plague. "He pointed out that the obverse of the coin proved in the clearest possible way that the Ancients were perfectly cognizant of the part played by the rat in the propagation of plague. From time immemorial, in Asia Minor, Apollo had been worshipped as the "God whose arrows spread the plague," and at the same time as the destroyer of rats" and monuments representing him treading on a rat or holding the noxious rodent are still extant. Apollo was not only a healing God for the Greeks but also the protection of Agriculture. Therefore, the presence of a rat or field vole on his monuments may be explained in various ways. But under Roman occupation, when Aesculapius, the Roman God of Medicine and of medicine alone, takes the place of Apollo, and his figure is represented with a rat at his feet and a human being in the atti-

tude of fright or supplication by his side, and this on a coin struck at the time of a plague epidemic, there can be but little doubt that the rat on the coin indicates the disease and discloses the fact that the Ancients knew full well the importance of that rodent as a factor in plague epidemics; a fact already vaguely gathered from the trespass offering of five golden images of "the rats that mar the land" together with as many golden images of the "emerods" or briboes which the plague-stricken Philistines are said to have returned with the stolen ark, in the First Book of Samuel, chapters 5 and 6.

"Following his investigations with the history of plague, Doctor Sambon gleaned information which led him to suggest a new and interesting explanation of the Medallion struck by the Emperor Antoninus which records the famous embassy to Epidaurus in the year CCCCLXII of Rome. Plague was raging in the City and Quintus Oguluius was despatched to Epidaurus to consult with the priests of the Temple of Aesculapius on the best measure to be adopted in order to stamp out the pestilence. According to Sambon the snake represented emerging from the Roman Trireme on the Medallion is not merely an emblematical representation of the God of Medicine, but a true record of the introduction of harmless snakes into Rome to destroy rats and thus free the City of the dread disease. Snakes were kept in all the Aesculapian Temples, they were kept in dwellings throughout the East for the very same purpose, and this consecration like that of the cat and the Kestral or hawk in Egypt, must be regarded as a wise measure to protect the most valuable natural enemy of the fearful plague-conveying rat.

"Doctor Sambon even suggests that it is to its efficiency in warding off the plague that the snake has become the emblem of medicine."

The exact relationship that the rat bears to the plague has but recently been worked out, and we now know that it is really a disease of rats transmitted to man through the bite of the infected flea.

Any real knowledge that the Ancients had was loss to the world during the Dark and Middle Ages. Just in what light it was viewed in the sixteenth century is indicated in a passage from Reyburn's Life of John Calvin. It seems that in 1543 there was an outbreak of plague at Geneva, Switzerland, and in a letter, dated March 27, 1545, John Calvin says:

"A conspiracy of men and women has been discovered, who for the space of three years have spread the plague through the city, by what means I know not. Fifteen women have been burnt. Some men have been punished even more severely. Some have committed suicide in prison. Twenty-five are still in custody. Notwithstanding the conspirators do not cease to smear the locks of the doors with their poisonous ointment."

Thus was represented the spirit of the age that burned Servetus at the stake for presuming among other things to suggest the true pulmonary circulation of the blood.

In justice to our modern methods, however, we must say that from 1879 to 1894 the world was practically free from plague, and it was not until the latter year that it was discovered in Hong Kong, and the specific bacterium was soon isolated by the great Japanese physician Kitasato. Its true method of dissemination nevertheless has been understood but very recently.

THE BACKWARD CHILD

By Charles W. Kollock, M. D., F. A. C. S., Charleston, S. C.

T IS a good thing at times to leave home and to visit home and to visit other folks, to hear their views and to see how they do things. I have learned much from and enjoyed immensely my visits to the various towns of our State where the meetings of the State Medical Association have from time to time been held. It is good to know your neighbors and I believe that if the intercourse between the different parts of the State were more common that there would be no up or low country except on the maps. Though I have lived for thirty years in Charleston it has never been my good fortune to visit St. George before and, when it was decided to hold this meeting here, I determined that unless something of unusual importance occurred I would not miss it.

The Bacward Child may not, at first thought, seem to be a serious problem among the many that confront us today. What is really meant by the Backward Child? It means a child who has begun to attend school, who fails to learn as other children do and at the end of the term is turned back to repeat the course. They are usually regarded as mentally deficient and undoubtedly are physically affected or diseased. This does not seem to impress us as a very serious affair, but let us look more closely into the matter and learn the results. are in this country twenty millions of school children, ten millions of whom

*Read at the meeting of the First District Medical Association, held at St. George, on July 12, 1915. This paper follows closely one on the same subject by Dr. Frank Allport, of Chicago, and all good thoughts should be given publicity.

have ear, nose and throat troubles, and five millions suffer from affections of the eyes. There are three hundred thousand blind persons in the United States whom it costs the country fifteen million dollars a year to support. At least twenty per cent of these have lost their eyes from ophthalmia neonatorum which should, had the proper preventive treatment been used or had they been promptly and properly treated after infection, have resulted in a negligible per cent of blindness. There are among the twenty million school children about three million who are called "repeaters," that is, those who remain in one room at school term after term. These "repeaters" cost the country about one million dollars a year extra to try to educate them, and then failure is the more common result. These children are too often supposed to be mentally deficient when, on the contrary, they are physically defective or diseased. In reality only about three per cent are mentally defective, and the money spent in trying to teach them is often waster as the true cause of the trouble is not detected. It would certainly take but a small portion of the one million dollars that are spent in trying to educate them to use in finding the real causes of their backwardness, when the truly defective could be placed in the schools for defectives only, and where, in many instances, they are educated and trained to be not only selfsupporting but useful citizens. State of New Jessey has forty-four millions of dollars invested in public schools. There are about five hundred thousand pupils and it costs the State thirteen million dollars a year to run them. The possible attendance has been estimated at seventy-one million days in the year and the actual absences have been found to be nine million days. "Here is a plant with a total investment of about sitxy million dollars, losing about twelve per cent of its utility through absence of pupils, which is equal to about five million of its capital stand-Seventy-five per cent of ing idle. these absences were due to sickness which caused a loss of seven million days or three million, seven hundred and fifty thousand dollars." In Minnesota about forty thousand children annually have adenoids in their throats that retard them one year at school. It costs twenty-five dollars to educate each child, and, therefore, Minnesota losess one million dollars per year in the effect to educate these children who might in most cases be relieved by a simple operation.

These citations should make us stop a bit and think-whether it were not better to see that children are kept healthy and in good condition to receive an education, rather than to spend vast sums in the effort to accomplish something which is impossible as long as they are physically defective or diseased. If the seed is sound and the soil fertile, the crop, if attended, must be good and the yield profitable, which means that if we would have our children grow and learn we should be sure that their bodies are healthy and the schools are properly conducted. This brings us to the medical inspection of schools which should begin in selecting the locations for the schools. The buildings should be on high ground where the drainage is good and the surroundings are healthy. They should be away from excessive noises, have plenty of air and sunlight and ample play grounds for exercise. School houses are often seen that have cost considerable money and as far as expense goes in keeping with the wealth of the community, but are faulty in construction and, therefore, do not fulfil their

School houses should be mission. planned by architects who make a specialty of such work and such matters as light, ventilation, heating, plumbing, desks, blackboards, wall, books, bathing facilities, and especially the drinking water should receive most careful attention. The teachers, as well as the children, should be examined to learn if their health is good, if they have chronic affections which may be contagious or infectious and whether, as far as can be ascertained, they are mentally and morally fit to teach. School nurses to aid in inspection may be of great assistance and it would indeed be a real advance to have a competent trained nurse in attendance at every school, not only to look after the many physical ailments of the pupils but to teach them many simple things about injuries, caring for the injured, etc.

For the twenty million school children in this country there are two hundred and sixty thousand schools which are valued at eight hundred and fifty million dollars, and cost the country four hundred and fifty million dollars a year to maintain. This in itself shows the necessity of conducting them on a business basis. As to the so-called defective children, many are found upon examination not to be defective but to suffer from some physical ailment that can be relieved and often cured. About three per cent of the supposed defectives are really so and for them special schools should be provided, for, as stated above, it is frequently found that by care and patience on the part of those who have been especially trained for this work that they can be wonderfully improved and in the end made useful citizens of fair intelligence. About fifty thousand children are annually removed from schools on account of physical defects. Some are undoubtedly

defective but many prove to have troubles than can be cured, and thus their lives are made happier and their usefulness greater. The State of Pennsylvania has estimated that about three million dollars a year can be saved by relieving the defects of such children, and we may be sure that it does not cost the State anything like that sum to have it done. Thus it is seen that the medical inspection of children is an economic practice which any State, or community, might adopt as a good business principle, if for no other reason.

Time does not permit me to consider every phase of this vast subject, so I will mention the great value of good vision and hearing. Next to mental capacity they are the most important and when we remember that of the twenty million school children in the United States that fifteen million have some eye, ear, throat and nose trouble the work to be done is by no means to be undervalued. What then is the best method of handling this undertaking? Undoubtedly the medical inspection of schools by competent physicians would be the best way, but for various reasons it has not proved successful. First, it is difficult to get physicians to devote sufficient time to the work without compensation, and in many States the school funds are not sufficient to pay adequately for the time and trouble. Again, it was found that when physicians were chosen to perform the work there was more or less jealously on the part of those who had been left out, and it was also intimated that their practices were at times interferred with. Some parents also object to their children being examined by others than the family physician. Therefore, the best solution of the problem would seem that the work should be done by the teachers themselves in a way that I will describe. At the beginning of the school term one day could be set aside for the examination of the children, such as testing the vision, the hearing, noting obvious defects, such as crossed eyes, inflamed eyes, impairing hearing, running and foul-smelling ears, mouth breathing, etc. It may be said that this is too much work to put upon an already overworked individual and that teachers are not competent to do it. In reply to the first objection I will remind you that it is to be on a day set aside for that purpose alone, and supposing that each room had about forty pupils it could be done in a day. Secondly, no special training is necessary beyond that which can be given by a competent specialist, or a physician in general practice who will acquaint himself with the charts which I will show later. The cards really explain themselves. About five minutes will suffice for examining each pupil who will either be passed, or the parents will be requested to have a physician see the child and, if possible, correct the defect. It seems scarcely necessary to add that the child who is nearsighted will not be able to see the blackboards or other distant objects that are used in teaching. The tendency of these eyes is to become worse, and if nothing is done to pretect them seriously impaired vision and even blindness may follow. The hyperopic, or farsighted, child suffers from headaches in his efforts to see small print and characters, and unless relieved by glasses he will suffer intolerably, be forced to give up the use of his eyes, or become a "repeater," careless, shiftless, mischievous and, perhaps in time, a criminal. Equally as dire results follow impaired hearing due to adenoids, enlarged and diseased tonsils, etc.

I think enough has been said to emphasize the great importance of looking carefully after our children in order that they may not go backward, but will grow up strong men and women, prepared to take our places, as soon as they must, in the various walks of life.

"Some Observations on What the Laboratory has Done, and is Doing for the General Practitioner."

*By G. A. Neuffer, M. D., Abbeville, S. C.

AVING graduated in medicine thirty-one years ago, and having been a general practitioner all these years, I can appreciate better than most of you, what the laboratory has done for our profession. In order to make the latter day graduates appreciate the laboratory more, it might be profitable for me to tell you what the practice of medicine was like, in what I may call pre-laboratory times; or in other words the time when the country doctor did not have the access to the laboratory that he has now. With the telegraph, telephone and increased mail facilities, the most remote doctor is in easy and quick reach of the laboratory. You will all agree that making a correct diagnosis is the most important thing in the practice of medicine; and at the same time is often very difficult. We used to have cases of fever on our hands, and the clinical picture was so slow in developing, that our patient was sick for weeks before we could say positively that it was typhoid; the family in the meanwhile being kept on the anxious bench; and the doctor continually asked, what kind of fever is it? The rule used to be purge with calomel, then heavy dosing with quinine for three days; if the fever did not abate it was probably typhoid.

Again in tuberculosis we had nothing but clinical symptoms to go by, and this insidious disease would have our patient beyond doing anything for him, before we could make a definite diagnosis.

There are many cases of veneral sores in which we were unable to say whether they were specific or not, there was often the element of doublin these cases, and the patient always got the benefit (?) of the doubt and was loaded up with mercury and potash, very often to his detriment.

With diphteria the doctor was helpless, and I always went to a case of diphtheria with a sinking heart—for in those days in nine cases out of ter, it meant two or three weeks of agony for the little victim; pain and anguish for the parents; a heavy strain on the doctor and in the end a funeral.

In rabies and tetanus, we had no hope to offer, no treatment which promised a cure—and no method of prophylaxis.

Looking back now we seemed to be practicing medicine in the dark—there was no accuracy, no certainty in what we did. We did the best we could and true, we got results, but there was not the same satisfaction and pleasure that we have today.

Lister's germ theory was the forerunner of greater and more useful discoveries which came later—the work of Koch and Behring, the researches of Almroth Wright and many others have changed the very foundations of the practice of medicine; and today the laboratory is as necessary to the successful physician as the medicine case which he carries in his machine.

By giving us a corret diagnosis the laboratory enables us to give our pa-

^{*}Read before the Anderson County Medical Society, 1915.

trons better service; we get better results—and the practice of medicine becomes a pleasure.

Only today I received a report from Doctor Coward which helped me out considerably and I know relieved the peace of mind of one of my patrons. This gentleman whose fittle girl was under my care, brought me a specimen of her feces in a bottle; he was very much excited over it, said it was full of some terrible worms, I looked in the bottle and I must confess that I too saw worms. I was unable to name them so I sent the specimen to Doctor Coward with the request that he make a careful examination and advise me; telling the father that as soon as we heard from the specimen we would know what treatment to put the child The report today says: "Suspected material is pigmented vegetable fibre of some kind—probably green or red leaves of cabbage, lettuce or a similar vegetable."

Today the laboratory is the first assistant to the general practitioner, and is doing for us what we cannot do ourselves—every man cannot have his own laboratory nor would he have time to do the necessary work. And I would just at this point urge every physician to make free use of the laboratories within his reach, you will get a lot more satisfaction out of your work, and you will show a much lower mortality.

In cases of fever have a widal made—in suspected tuberculosis have the sputa examined. In your cases of anaemia, don't overlook the fact that you might have hookworm, and your laboratory can tell you whether you have or not.

In syphilis a Wassermann gives you the diagnosis, and will tell you when you may discontinue treatment.

We all have cases in which we suspect malaria, but cannot prove it, the

case does not yield to quinine; it may be something else, send a smear of blood to the laboratory and find out if the malarial plasmodium is present. The laboratory not only gives us a definite diagnosis, thereby making the treatment plain; but it does more for us, it enables us to carry out that most useful and important side of our profession "Preventive Medicine." The laboratory furnishes us the means to prevent disease thereby saving many valuable lives and avoiding much suffering.

From the laboratory we obtain the serum to inoculate against typhoid fever, and now when typhoid invades a household instead of seeing all members of the family go down with the fever, if we are "on the job" the fever is limited to one case.

The laboratory gives us the antitoxine which cures diphtheria, and makes a reverse of the picture which I showed you earlier in this paper—and when you see a case of diphtheria in the first three days and have the nerve to give antitoxine in large enough doses, you can assure the anxious parents that all will be well.

When children or others are bitten by a rabid animal the laboratory will furnish you with the Pasteur treatment, you can have this sent to you by mail and administered at the patient's home—and all the horrible dread of this terrible disease is removed.

Tetanus should not occur in your practice for from the laboratory you can get a serum that will prevent it.

In conclusion I can only repeat—use your laboratories freely.

NEWS ITEMS.

FRANK S. BETZ COMPANY EXPAND.

Considerable interest has been aroused in professional and trade circles by the

rumor of the changes in the personnel of the Frank S. Betz Co., of Hammond, Ind. These rumors have been definitely confirmed by members of the Company. Mr. Frank S. Betz, who hitherto has been virtually the sole head of this large business has felt the need of active assistance in the management of the affairs of the concern, and especially to carry out the plans of extension along many lines in which the company is interested. As a result, a coterie of business men, including many high in the financial world, have purchased a large interest in the company; and extensive plans are being formulated for the general extension of the business in every branch. Mr. Betz naturally remains in the company as President and Chairman of the Board of Directors. The changes will not affect the policy of the concern as to its methods of manufacturing and selling

goods, but the infusion of new blood will mean greater activities and further extensions in every way.

The growth of the Frank S. Betz Co. is another illustration of the remarkable success that can be achieved by a man of untiring energy and devotion to his work. He has built up this large business practically unaided, without the assistance of outside capital or borrowed money. It really represents the earnings of his original investment.

The new members of the firm are fortunate to align themselves with an established business house that has never carried a dollar of indebtedness except current bills for merchandise. With such a reputation for financial integrity, the plans of the new management seem assured of success.

SOCIETY REPORTS

ANDERSON.

The first July meeting of the Anderson County Medical Society was held at the Hospital, Wednesday, July 7th. at 12 o'clock, with sixteen members present.

Several business matters were disposed of after which the Scientific program was immediately entered into. This consisted of a continuation of the cancer program as arranged for our preceding meeting.

The papers read at this meeting were:

- 1. Facial Cancer.—Dr W. H Nardin.
- 2. The value of the X-Ray and Radium in the Treatment of Cancer.—Dr. W. F. Ashmore.

These two papers as also those read at the last meeting were most interesting and instructive. These with the general discussion following brought out many valuable points on cancer, and I am sure that every one present at the two meetings in which this subject was discussed was benefitted and we are glad that the House of Delegates of the State Medical Association suggested this subject.

The mid-July meeting of the Anderson County Medical Society was held at the Hospital, Wednesday, July 21, at 12 o'clock with seventeen members present.

During the business session Dr L. C. Sanders was elected to membership in the Society.

The following program was carried out:

- 1. Empyema.—Dr. J. C. Harris.
- 2. Gastro-Enteritis of Infants.—Dr. J. O. Wilhite.
- 3. Prevention of Diarrhoea of Infants.—Dr. J. E. Watson.

These papers were good. The last two dealing with rather prevalent diseases just at this time were of especial interest to all. As the month of August is taken as our vacation this is our last meeting until September 1.

> Olga V. Pruitt, Secretary.

COLUMBIA.

The Columbia Medical Society met Monday night, July 12, 1915. Meeting called to order by the Vice-President, Dr. J. H. Taylor. Visiting physicians, Dr. F. G. Roberts, of Lexington, and Dr. W. C. Sandy, of the State Hospital.

The nurses from the Columbia Hospital and the Baptist Hospital were invited to meet with us. We were glad to see that quite a number responded.

"Prevention of Shock" by Doctor Guerry. He stressed the point that so little could be done to relieve shock after its devolopment, but that much could be done to prevent its occurrence. Discussion by Dr. Geo. Bunch, Dr. Lindsay Peters, Dr. F. M. Durham.

Dr. J. H. Taylor reported a case of Gunshot Wound of the Leg, with injury to the great sciatic nerve, outlining the method by which nerve tissue regenerates.

Dr. H. W. Rice delivered an interesting paper on the Etiology of Pellagra, with report of 214 cases in children. Of this number 117 were in males and 97 in females. The average age being nine. Doctor Rice observes that the essential factors productive of the disease are apparently poor nutrition plus micro-organisms. Discussion by Dr. Jane Bruce Guignard, Dr. R. A. Lancaster, Dr. S E. Harmon.

Dr. J. W. Babcock read a translation from the French entitled "Alimentation by Corn Products in Healthy Individuals and in Pellagrins." In the discussion Dr. Wm. Weston referred to the prevalence of pellagra in mill districts where sanitation was bad, and the absence of pellagra where the sanitary surroundings were good. Dr. Fred Williams, of the State Hospital, where many cases of pellagra are under treatment stated that he has discovered nothing to indicate that the disease was of infective origin.

In conclusion Doctor Babcock warns us to keep our minds open as to the etiology of pellagra as it is yet in the experimental stage.

> Edythe Welbourne, Secretary.

PICKENS.

Our Society still lives, in fact is very much alive. We had a good attendance at our meeting Wednesday, 4th inst., and while we had no papers, some interesting cases were reported, and taken altogether it was a good meeting.

One case of unusual interest was reported by our president, Dr. J. L. Valley, in which a child swallowed almost the entire contents of a dime bottle of carbolic acid. The little patient was having convulsions when the Doctor arrived. He gave saturated solution of sodium sulphate and demulcents, and in a remarkably short time had the little fellow in good shape.

Doctor Tripp reported a case of typhoid fever in a young woman who was suffering from tuberculosis.

We enjoy listening to good papers, but in our humble opinion these heart to heart talks and exchanges of every day experiences do us equally as much good.

The meeting of the Fourth District Association was discussed and committees appointed to arrange for its entertainment. We wish to urge every member of the district to come. Our train schedules are favorable so that you can come and go conveniently.

The Pickens County Medical Society with a hearty welcome. needs and desires your presence on that day. Our progressive little city will open her doors and receive you

J. L. Bolt, Acting Secretary, Pickens County Medical Society.

BOOK REVIEW

A MANUAL OF THE PRACTICE OF MEDICINE.-The New (10th) Edition Revised. By A. A. Stevens, A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania, Lecturer on Medicine in the University of Pennsylvania. Tenth Edition, Revised. 12mo of 629 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Flexible Leather, \$2.50 net.

This is one of the most popular books, especially for the medical student and general practitioner published in this country today. The work has gone through ten editions since 1892, which in itself is enough to satisfy the reader of its popularity and merit. It is indeed more than a manual for it has 629 pages. This is a very complete revision, well bound in flexible leather, good print and paper.

ESSENTIALS OF LABORATORY DIAG-NOSIS .- Faught. F. A. Davis Co., Philadelphia. Price, \$3.00.

This is an excellent little book on laboratory diagnosis-just such a book that we have long looked for. Each subject is taken up and in a clear, brief, and concise manner every detail is brought out. It is to a large extent this brevity and conciseness of form that appeals to one—here we can turn to the question in hand and find the information desired without having to wade through page after page as we must do so often. In the appendix we find valuable information, especially as to the preparation of stains.

This book will be helpful to the student, to the general practitioner, and to the laboratory man.

O. V. P.

PYORRHEA. - By ALVEOLODENTAL Charles C. Bass, M. D., Professor of Experimental Medicine and Foster M. Johns, M. D., Instructor in the Laboratories of Clinical Medicine at the Tulane University Medical College, New Orleans, La. Octavo volume of 167 pages, with 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth,

No subject has been of greater interest in the last few months than the subject matter of this book. Those who witnessed the most excellent exhibit of the author at the San Francisco meeting of the A. M. A. in June could not fail to give the matter serious consideration. The question has assumed a large place in the practice of almost every doctor, as well as dentist.

This book is not too large for easy reading. The print and general makeup are very satisfactory including the illustrations. The whole subject is a very vital one to the profession just now. These are Southern authors, and the book highly meritorious.

DIARRHEAL, INFLAMMATORY, STRUCTIVE, AND PARASITIC DIS-EASES OF THE GASTRO-INTESTI-NAL TRACT.—By Samuel G. Gantt, M. D., LL. D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum, and Anus at the New York Post-Graduate Medical School and Hospital. Octavo of 604 pages, 181 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This is the most exhaustive treatise we have seen on the subject of Diarrheal Diseases. The author has endeavored to take up every form of Diarrhea and give its causes and treatment, both surgical and medical. The medical treatment is especially comprehensive giving a large number of formulas from many authors of national reputation as suggestions to the practitioner. The author is an authority of note and is personally known to a large number of physicians in South Carolina. Is one of the Professors on this subject at the Post-Graduate Medical School and Hospital, New York City. We commend the work especially to the general practitioner who sees most of these cases.

EXERCISE IN EDUCATION AND MED-

ICINE.—Second Edition, Thorougly Revised. By R. Tait McKenzie, A. B., M. D., Professor of Physical Education, and Director of the Department, University of Pennsylvania. Octavo of 585 pages, with 478 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$4.00 net; Half Morocco, \$5.50 net.

This work fills a long felt want for all those who are directly or indirectly interested in the physical training and welfare of our schools and colleges. The work is a volume of 585 pages and will go far towards standardizing the teaching and practice of these most important subjects. There has been about as much quackery in the name of hygiene and physical culture as in the practice of medicine. The author is a Professor at the University of Pennsylvania and is a physician, and, therefore, his training is such that the book should prove authoritative. Every teacher and every physician should have the book in his library if in any way connected with physical training in our schools.

THE PRACTICAL MEDICINE SERIES.—

Vol. IV. Gynecology, Edited by Emilius C. Dudley, A. M, M. D., and Herbert M. Stowe, M. D. The Year Book Publishers. Chicago.

Doctors Dudley and Stowe are the authors of this volume and they have culled the best Journals of the world and given it to the profession in a clear concise manner.

THE PRACTICAL MEDICINE SERIES.—

The Ear, Eye, Nose, and Throat. Vol. III. The Year Book Publishers. Chicago. These year books continue to occupy an important place in the literature available to the physician. The authors of these volumes, Doctors Wood, Andrews, and Ballenger assure the readers of the very best abstracts throughout the world.

THE MEDICAL CLINICS OF CHICAGO.

-Volume I, Number I (July, 1915). The Medical Clinics of Chicago. Volume 1, Number I (July, 1915). Octavo of 208 pages, 37 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year. Paper, \$8.00. Cloth, \$12.00.

Medical Clinics.

The Medical Clinics of Chicago appeared for the first time in July and undoubtedly merits a warm reception by the profession in this country. The great popularity of the Surgical Clinics will be duplicated with the Medical Clinics. This number has been well gotten up in every way and is a credit to the publishers. The entire field of internal medicine will be covered. An endeavor will be to secure men of the highest ability as contributors to this series of Clinics. Stenographic reports at the bedside, as in the Surgical Clinics, will be followed. The general practitioner especially should welcome such an authoritative work. The Clinics will be issued every two months at \$8.00 per year.

THE CLINICS OF JOHN B. MURPHY,

M. D.—Volume IV, Number III (June, 1915). The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume IV, Number III (June, 1915). Octavo of 195 pages, 73 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year. Paper, \$8.00. Cloth, \$12.00.

Surgical Clinics.

The June number of the Surgical Clinics, as usual, is full of interest. We would call particular attention to Doctor Murphy's diagnostic signs of injuries of the hand. Dr. W. J. Mayo gives an interesting talk on unsuccessful gastro-enterostomy for ulcer. The illustrations are very good indeed.

COLLECTED PAPERS OF MAYO CLINIC

1914.—W. B. Saunders Comany, Publishers, Philadelphia.

The Mayo Clinic for 1914 is before us. This volume, the sixth, measures up to the high standard which the others and publishers have attained in the former volumes. While the authors distinctly present these volumes as "indexed collections of reprints" the convenient subject—group-

ing of papers, the wonderfully clear illustrations and the wealth of material included in each volume constitutes sufficient reasons why every surgeon will want these volumes in his library. And the papers are such that will appeal to the general practitioner and interest no less than the surgeon.

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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Caief, Seneca, S. C.

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EDITORIAL

Good For Chesterfield.

A letter from the Secretary states that although they have only seven members of the County Society they meet every month and are finding the meetings highly profitable.

The Secretary appeals to the officers of the State Association to help them interest the eligible physicians.

Rally At Abbeville.

On September 30th Abbeville proposes to have a rally meeting of the Society at the Eureka Hotel. This step is highly commended for other Societies to follow. Every organization needs boosting occasionally in this

manner. A number of good speakers have been invited and an attractive program is promised. Abbeville is the home of President Neuffer of the State Association, and it is very probable he will lend an active hand to the rally proceedings.

Activity in Society Circles.

There is ample evidence that we are to have more than ordinary interest in Medical Society circles this fall and winter. General depression in almost all lines of endeavor followed the outbreak of the European war. A large number of members found it difficult to pay their Society dues. Several small County Societies were suspended,

no doubt because of the hard times, they are paying up now and getting down to earnest work again. The officers of the State Association are anxious to help by their presence or otherwise when it is possible to do so.

Williamsburg's Breezy Meeting.

Evidently Williamsburg doctors who are members of the County Medical Society have determined to make every possible effort to protect themselves from the illegal practitioner. We believe they will succeed in greater measure by this concerted action than by any other available means. Our recourse is not very satisfactory at best, but the power of organized medicine is great.

Williamsburg probably establishes a precedent for our County Societies in sending a delegate to the Pellagra Conference in Columbia in October, and paying his expenses.

Surgical Diagnosis.

Surgical diagnosis, or in its more practical application, the recognition of surgical conditions, ought to be given more attention by those doing general practice; for most of the surgical work comes through the practitioner. He has a grave responsibility in differentiating his cases, is often perplexed, and justly requires all the assistance and encouragement he can be given by his specialist colleagues. If he is in doubt—and who isn't?—as to its being a surgical condition then he can simplify matters by calling on the surgeon. Upon the latter now devolves the responsibility, and if the condition is surgical, he must determine the course to follow. Such a practice makes easier the physician's work and gives better results. It is being used

also each year by a greater number of medical men.

There are two classes of surgical cases—the acute and the chronic. The for mer demands immediate interference; the latter may be delayed a short while without endangering the life of the patient.

The acute case, exclusive of the traumatic; appendicitis, perforated gastric ulcer, strangulated hernia, typhoid perforation, are enough to call attention to this class, which must be dealt with promptly if we are to save the patient's life, or to avoid a prolonged recovery. The first of these, appendicitis, is now familiar to most of us; but the time of operation is often too late to prevent peritonitis, or even death. It is now recognized as a surgical condition. It has been well said that until recovery from surgical interference in appendicitis reached 100 per cent, we have not done our full duty. The time of operation has more to do with this than any other factor. Take a common occurrence: a healthy young person seized with severe pain in the abdomen, general at first, later nausea, vomiting, with localization of pain in the right iliac fossa, with normal urine, the most likely diagnosis is acute appendicitis. If a blood count can be made, that will give additional information. The diagnosis determined, the course is clear: immediate operation. Yet, in spite of this knowledge, physicians persist in advising delay. One 'thought it was catarrhal appendicitis and the patient would recover without operation'. Is it possible to operate too soon for this disease? But operation is many times done too late. Delay means flirting with death. Physicians in good standing in their communities are often negligent in these cases. Now that appendicitis is regarded by the profession at large as an acute surgical condition, we should be making fewer mistakes by delaying operation no longer than it requires to make the diagnosis and secure a surgeon. Other acute conditions are just as important. Once the diagnosis is made, we have no alternative but immediate operation.

The chronic cases: congenital defects, hernias, pelvic defects following labor, most tumors: these are sufficient to distinguish this class. Such cases should not be put off long, for while the anatomical condition may be made good, the wear on the patient's system from prolonged delay will not be recovered from by the time the operative wound is healed. Does a pro-

longed convalescence mean anything to the patient or his family? Since we are learning more about the malignant degeneration of "benign" tumors, we shall soon regard them as acute conditions also. We are advised by eminent pathologists to regard all breast tumors as acute conditions. And the gastric ulcer that does not respond to a few weeks treatment, must be regarded as a surgical case.

These are a few instances: many others could be cited, but it is unnecessary to establish the truth that surgical conditions must be recognized earlier, and must be treated sooner, if we are to apply to our patients the curative measures within our reach.

ORIGINAL ARTICLES

THE DIAGNOSIS OF INCIPIENT TUBERCULOSIS.

*By N. Bruce Edgerton, M. D., Columbia, S. C.

T IS the general practitioner who sees the patients in the early stages of pulmonary tuberculosis and it is to him that the people must look for a diagnosis while the disease is in a curable stage. It is important therefore that this most important part of the medical profession be prepared with information, information which shall be clear, concise, brief, and so far as may be, correct. It is the purpose of this paper to take up some of the diagnostic points of incipient pulmonary tuberculosis and call attention to certain signs and symptoms which

may be of value. I fully realize that a young and untried writer may be severely criticized for some of the statements I shall make in this paper. But there is an urgent need for a radical change for the better as regards the diagnosis of tuberculosis in this country. There are a few of the private sanatoria which receive a fairly large proportion of incipient cases, but a great many of the State institutions can hardly get their total of incipient cases up to forty per cent.

The State of Massachusetts has about as good a system of tubercular sanatoria as any State in the Union. They have tried various plans for the care of their tubercular sick and have arrived at the final conclusion that the commonwealth take care of the incipient cases and the counties and towns handle in county sanatoria the far advanced cases. In the Rutland Sanatorium where they take only incip-

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

ient cases about one-half of the cases that come to them are in the second stage, and these patients are sent by physicians who are regularly licensed by the State. They think that the examining physicians are either afraid to make an early diagnosis or they don't know when they see a case in the very early stage. In talking with the superintendent, I learned that the State spends twice as much on the incipient cases per capita as they do on the advanced cases. It certainly was a revelation to see some of the fine looking men and women out there at the highest point in the State of Massachusetts, being cared for by the State as incipient tubercular subjects. At one of the other places we visited where the far advanced cases were cared for the authorities were looking for a high death rate.

I do not underestimate the difficulties of making an early diagnosis nor the amount of criticism many physicians will meet who are bold enough to make such a diagnosis. In a State such as Massachusetts, in which its physicians have had the opportunity of sending all the cases of incipient tuberculosis to a sanitorium to be cared for by the State, in doing so they have sent about one-half of moderately advanced cases. Our medical standard is no higher than theirs, we have no State institution where patients are received free of charge, we must have a great many tubercular people and I don't suppose that our profession has made any better success in diagnosis than those men in yonder State. However that may be we can only make progress by facing the situation squarely and relegating to the past our present hyperconservative attitude. I do not want to appear extreme, but I believe that the time has come when radical measures must be taken to detect this disease in its early stages, and in order to do

this errors of commission are less reprehensible than errors of omission.

One of the most important things to know with regards to the diagnosis of any pathological condition is exact knowledge concerning the physiological. One of the reasons probably why a great many diagnoses are not made is because the physician doesn't know what the normal sounds should be in any particular part of the chest. There is a very marked difference in a healthy man in the pulmonary apices.

The trachea and bronchus are nearer to the apex on the right side than on the left, therefore all the signs are different in the two apices. right side BVII is more marked than on the left, on the right there is normally more dullness more transmission of whispered voice sounds than on the left and in fact all the signs are different. If one finds in the left apex the same signs that are found in the right apex there is some pathological condition present, most likely incipient pulmonary tuberculosis. There is also a difference in the signs at the base which modifies however only one quality of the breath sounds. On the left side the intensity of the sounds is louder than on the right probably due to the presence of the stomach. There is no change in the intensity or duration of the voice sounds. all things though, I want to emphasize that it is not alone the examination of the patient's chest, but a prolonged and careful study of the patient himself and his history past and present, which will lead to an early detection of the disease and that were the thermometer with common sense used more, and the stethoscope used less, there would be fewer mistakes.

The number of physicians who still demand the presence of the tubercle bacilli in the sputum before making a positive diagnosis is astonishingly

large; the number of patients whose first symptoms was a hemorrhage which according to the physician came from the nose, throat or stomach, and who later proved to have consumption is equally great. Tubercle bacilli in the sputum is usually a manifestation of the second stage and a physician who will not make a diagnosis before he can find bacilli should always reproach himself for not making the decision while the disease was in a curable stage. In most cases in which you have the presence of tubercle bacilli, it means that lung tissue has already broken down and, that the disease has advanced to the second stage —a stage in which for a great many people the disease is almost incurable. In order for the segregation of the advanced cases to do any good tuberculosis must be diagnosed while still in the incipient and curable stage, a check being thus placed on that large number of cases which ordinarily will sooner or later fall under the far advanced class.

There is a very urgent need for an orderly and routine procedure in questioning and examining patients because in dealing with tuberculosis the basis on which a correct diagnosis rests is a careful, thorough detailed history of the patient and his family, occupation, habits, and suroundings; and that the all important points in diagnosis of early tuberculosis are not tubercle bacilli in the sputum, nor definite signs in the chest, but definite constitutional signs and symptoms which show only too clearly that the patient is sick, were they but properly interpreted. In the history of a patient it is very important to ascertain the present and past state of health of each member of the patient's family and to be sure that tuberculosis does not escape you under the guise of "chronic bronchitis," "'decline," "weak lungs," "dyspepsia," "anemias," etc.

In the patient's past history the most important question is concerning the acute infections of early life. Of these measles and whooping cough are the most important. Each of these diseases though mild enough in themselves, are known to have a tendency not only to awaken latent tubercular foci, but also to leave the lungs in a weakened and irritated state and extremely susceptible to fresh infections. Especially if these diseases occur late in life they are apt to be followed by tuberculosis. Of the diseases occurring late in life there are five which are of special importance as related to a possible tuberculosis. These are:

1.—Pleurisy.—All wet pleurisies should be considered tuberculous. Dry pleurisies, unless there is definite evidences that they are traumatic, rheumatic, pneumonic, or post operative, should be considered highly suspicious of tuberculosis.

2.—Influenza.—While some cases of influenza are called tuberculosis, the reverse is more often the case and leads to far more distressing consequences. A history of influenza lasting over three or four weeks, and followed by a period of debility and loss of weight and strength, with or without cough, should be looked upon with grave suspicion.

3.—Bronchitis.—This, the commonest and perhaps the most neglected of all pulmonary diseases, is usually a local one and rarely attended by severe constitutional symptoms. A bronchitis which lasts for over a month and is accompanied or followed by a slight loss of weight, strength, etc., is open to suspicion as being of tuberculous origin.

4.—Most of us occasionally get run down and are obliged to take a vacation or a tonic or both. It is impossible to say how often the run down con-

dition is due to a lightening up of a latent focus of tuberculosis. This should receive eareful consideration.

5.—Fever.—This term usually means endocarditis, malaria, influenza, or typhoid fever, and frequently such a condition as this closely resembles and may be due to a tuberculous infection. In addition to the above one should ascertain from the patient the amount of food and sleep gotten daily, should inquire concerning the patient's habits with regard to "the fresh air habit," "the fresh water habit." All the information concerning the patient's occupation, home surroundings, and habits obtained in an orderly sequence will go a long way toward making a final decision and diagnosis. A patient should always be questioned concerning a probable syphilitic history. Pulmonary syphilis is not so rare a disease as has usually been supposed and iodide of potassium and mercury have cured many a so-called consumptive. Lues, as a rule, attacks only one lung, while tuberculosis always affects both lungs.

In classifying incipient pulmonary tuberculosis there are three groups which differ so widely in signs and symptoms that they must be put in different classes, still they can all be called incipient. In group one may be placed patients with a definite though slight infiltration or consolidation of one lung, but with only the slightest sign of any constitutional disturbances, as shown by loss of weight, fever, etc. In group two, fall those patients in whose lungs no definite lesion can be found, on whose records one would often put "suspicious" right or left apex. The diagnosis is here based on general signs and symptoms. In group three, we find children under 15 years of age who rarely have any active pulmonary disease, but in whom we find

by means of the X-ray enlarged bronchial glands, and who show evident signs and symptoms of constitutional disturbances. It is in this type of case that the X-ray proves its real value in tuberculosis. These glands—the bronchial or tracheo-bronchial—glands must reach a pretty large size before they will produce much sub-sternal dullness, enlarged superficial veins, dyspnoea, or other striking signs and symptoms. The X-ray will demonstrate them far earlier than any other method.

The best way to study the chest of an individual whom you have begun to suspect is to study the back and to begin at the lowest point of the lung and gradually come up on the same side of the spine, noting carefully the changes. The very best physical method of eliciting information from the lungs is the stethoscope. From the lower part of the lungs in a person infected with tuberculosis you will first find first stage, nearer the apex, second stage and still nearer third stage, and at the apex fourth stage; and this information will always be more exact than the usual method of examining one side and then jumping across and comparing the other side in the same position. You can compare the two sides as a whole much better after making a detailed study of each.

The most important part of the chest to study is the supra and infra clavicular spaces and the interscapular areas. Bronchial breathing is usually absent in the early cases; rales or fine crepitations may or may not be present; often a cough will bring them out. Rales are most significant when heard at the apex, and the tubercle bacilli causes rales in ninetynine cases out of a hundred, while influenza and streptococci only cause them very occasionally. They are

very hard to hear and their exact cause is not known. When they are localized, and even if you have no other sign you have enough evidence for a diagnosis without any hesitation provided you can hear one at three examinations, each examination with three days intervals. One of the greatest aids towards hearing rales is to be in a comfortable position. great many men will listen for rales when they are in the most imaginable positions—positions in which one is liable to get most any sort of a rale from his own attempts to maintain his own poise.

There is nothing that will give the physician more information as to diagnosis, prognosis, and treatment than a careful study of the patient's temperature and pulse. Observations taken over a period of four days every four hours will give evidence of great value, and in taking the temperature the thermometer should be kept in the patient's mouth at least five minutes, it matters not whether it is one of the one minute kind or not. A temperature of 99 should be considered the dividing line and an elevation of two or four tenths should be considered significant. This elevation with a pulse between 100 and 110 should always be significant. A high pulse with a subnormal temperature is of much more importance in diagnosis than an elevated temperature and fast pulse because the prognosis is always worse. A subnormal temperature in the early morning hours is of no value in diagnosis because everyone has this sort of a temperature at that hour. In no other condition are slight changes in the pulse and temperature of such importance as in tuberculosis.

There are certain conditions which may similate tuberculosis not only by their symptoms and constitutional disturbances but also by their signs in the lungs. These are influenza, syphilis, neurasthenia and debility, chlorosis, thytoxicosis or exopthalmic goitre, sepsis concealed, new growths, actinomy-cocis, the elimination of all of them being easy provided they are considered. In children diseased tonsils, endocarditis, pyelitis, chronic intestinal indigestion are the chief conditions which may similate tuberculosis.

Tuberculosis should always be uppermost in your minds if a patient complains of (1) loss of weight and you can find no obvious cause. (2) Loss of appetite without cause. (3) Dyspepsia without cause, because, gentlemen, you and I and pretty nearly every other individual eats practically the same thing day in and day out the year through and they shouldn't have dyspepsia without obvious cause. (4) A patient has an unexplained fever always look for tuberculosis. (5) Sudden muscular weakness without good (6) Any cough lasting more than a month. (7) Hoarseness unaccounted for is a sign of tuberculosis, without necessarily any tuberculosis of the lungs. (8) Night sweats are usually a late symptom, but they may be early in the disease. (9) Shortness of breath is often an early symptom of incipient pulmonary tuberculosis. The patient would most likely be between the ages of 17 and 35 years of age, for this is the period during which the tubercle bacillus asserts its influence. Ninety-five per cent of the people who spit up blood without obvious cause are tuberculous. The mouth has about one drachm of blood to come up in it without a cough, you may not find any other evidence of tuberculosis but if you will put this blood in a guinea pig he will die of tuberculosis. tient may go along all O. K. apparently, but you should treat him for tuberculosis. This is the one most important and tell tale symptom of tuberculosis

and no man should be fooled with such evidence.

I heard Dr. Richard Cabot say last summer that he believes that tuberculosis always begins in the apices of the lungs and in both of them, but that in most cases we only detect it in one apex, that in incipient tuberculosis shadows or no shadows, opacities or no opacities, the X-ray isn't any good. That he doesn't believe tuberculin to be any good for diagnostic purposes because over eighty-five per cent. of the people have tuberculosis either latent, healed, or in a blaze and that in practically all of these cases the tuberculin reaction will be positive. relies on localized rales and localized changes in the breath sounds, for his information, together with the associated constitutional disturbances and the patient's history.

However, tuberculin is used by a great many of the best men in the country as an agent to clinch the suspicion of tuberculosis. Among the various methods of using tuberculin the subcutaneous test is by far the most reliable. It is also the most difficult to carry out and to properly interpret. The patient should be in bed to get satisfactory results. should not be given when there is over one-half degree of fever, where there has been recent hemorrhage or where there has been any suspicion of renal tuberculosis. The initial dose should not be over 1 mg, of Koch's old tuberculin. The second dose, in case there is no reaction to the first in forty-eight hours, should contain 1 mg., and the third, which is not usually necessary, 10 mg. Patients should be kept in bed during the forty-eight hours following each injection. This should be late in the afternoon so that the patients will not have to be disturbed during the night for the purpose of taking the temperature. Temperature and pulse should be recorded every two hours for two days when possible. Signs of a focal reaction, local hyperemia or other signs of activity in the suspected part, such as increased cough and sputum, increased pain, redness or swelling in the joints or glands, or elsewhere—or a local reaction, swelling, redness and pain at the point of injection are more important and less subject to error.

The cutaneous tuberculin reaction is perfectly safe and is easy to apply; a positive or negative result is in adults of far less significance than the subcutaneous. It consists in scarifying the skin of the upper arm with a needle or lancet and rubbing in a drop of Koch's old tuberculin. Another vaccination should be made without the tuberculin, simply the scarification used for comparative results in order to rule out any undue inflammation. No dressing is needed. There are various degrees of reaction from a small indurated red spot not over one-half. inch in diameter to a large inflamed area one to one and a half inches in diameter, red and occasionally covered with vellow blisters. There is also a modification of this test called the intra cutaneous test which has no advantages over the skin test. There is also the Moro ointment test.

A few years ago Calmette described the opthalmic test. This consists of dropping into one conjuctival sac a few drops of dilute tuberculin. A positive test is striking but often annoying to the patient, and occasionally causing permanent injury to the eyes. The reaction comes on in a few hours and consists in a deep injection of the blood vessels, increased lacrimation, and a slight swelling of the membrane, and last for from 24 to 36 hours.

Apparently normal individuals will react to tuberculin in a 60 per cent proportion. This must be considered

when using it as a diagnostic agent, however, it should be used as one of the aids to decision in diagnosis.

In conclusion then—

When you find the same signs in the left apex as in the right the patient has some pathological process—most likely tuberculosis.

When you have a patient who has been spitting blood without obvious cause treat him for tuberculosis. You are saving time.

Remember that you are examining a patient and not a pair of lungs and that he may have tuberculosis and not have a single sign in his lungs, always remembering the loss of weight, strength, and energy and that the patient is really sick.

Always play the cards on the table and if you suspect tuberculosis tell the patient exactly what you find and after you have explained the case fully he will be a friend as well as a patient. One rale, in the same place three times, three days apart with loss of weight and strength, means tuberculosis ninety-nine times out of a hundred.

DISCUSSION.

Doctor Townsend, Anderson:

Mr. President, I wish to express my appreciation of the pleasure that I enjoyed while the Doctor read his paper. It is worth a trip here to hear that paper.

The gentleman made the statement that the ausculation should be the principal method to make the diagnosis. A recent article in the American Medical Journal, the author places the greatest importance on percussion. He should then verify his findings by ausculation. Wood starts in the right lung and pitches that at F, below G. He says the lung sign in the normal lung is below middle Z, and he pitches that there, and then he proceeds upward, and as he proceeds he allows about two octavos of the normal.

The trouble is, none of us knows what the other fellow is talking about in the present nomenclature of physical diagnosis. I think the whole business ought to be renamed, and if we will adopt Wood's method we will get along a great deal better, and it is wonderful how our sense of sound increases and practically most of us do not know how to percuss properly, and we cannot pitch the sound unless it is F, C, or M. By a little practice a man can pitch the sound so he can tell pretty well the register of that sound, and then he can detect a great deal better by percussion.

The gentleman failed to mention the listening process, over the supra scapular space, where we frequently get the rales where we hear them no where else, especially after emphatic whispering. The patient is told to whisper emphatically three or four times until he is out of breath, then take a long breath, and then the rales he speaks of can be heard, and if a rale is heard there after coughing or whispering, we can be sure we are dealing with a tubercular rale, and that we should treat our patients as such.

It gives one the jimmies when he has to tell a man that he has the bugs, and especially when the man has to leave home, and I admit that I have lied in the past, and when I had a good, stiff suspicion that he had tuberculosis, I have smoothed things over at first, and the next visit I would make it a little stronger until I told him.

Dr. J. LaBruce Ward, Columbia:

I am sure we all enjoyed the paper and I cannot attempt to add anything to it, but one point I think should be brought out: the fact that the physician, while he may be responsible in a great many cases, and doubtless is, in failing to make a diagnosis, that failure is due to two things: First, that we are unable, oftentimes, to make it when we examine the patient, but in the majority of instances we are too late to make a thorough examination. It is not always that a man is unable to make the diagnosis, but he is too infernally lazy to make the examination; to spend an hour or an hour and a half in getting the history and going over the chest thoroughly. It takes a mighty good man to make the diagnosis in less time than that.

Many times the question of making a diagnosis in a case of incipient tuberculosis is the fault of the man himself. The people are not educated up to going to the physician until they have tried patent medicines and have been coughing for two or

three months and begin to have night sweats. In other words, they come to us for diagnosis when they ought to go to the undertaker. We have to educate the people that when they have a cough lasting two or three weeks, they should go to the doctor and not try to dope up on patent medicines and things of that sort.

Dr. J. R. Young, Anderson:

I once heard a man who is good authority on the subject, say, "When you find tubercle bacilli in the sputum, you no longer have a case of incipient tuberculosis." We should remember that.

On the other hand, when we have a suspected case of tuberculosis, but fail to find the tubercle bacilli, let us not make a negative diagnosis on this account, especially upon the evidence of only one or a few microscopic examinations.

Dr. John L. Dawson, Charleston:

I wish to stress only one or two points: We lay too much stress upon the physical examination of the chest. It takes much more practical experience than is possessed by the average practitioner of medicine to make the diagnosis, by examination of the chest alone. There is a tripod of symptoms: Loss of pulse, respiration, temperature. As the Doctor said, when the pulse is out of proportion to the rise of temperature, it is one of the most suspicious signs. The evening rise of temperature is another very strongly suspicious symptom, and the loss of strength a third point. Given this tripod of symptoms, you can be very cure you have to deal with incipient pulmonary tuberculosis, and it is not until later on, probably, that the changes in the lung take place sufficiently for you to map out these findings by percussion. When you are able to diagnose by X-ray findings, it has passed the incipient stage. I would rather rely upon the symptoms of the bedside than even the most careful examination.

In regard to the bacilli in the sputum, when they are present the incipiency has probably passed. However, there are exceptions to that rule. Occasionally, in a primary hemorrhage,—one of those free hemorrhages that we meet with in which there are no physical changes in thec hest whatsoevr,—a man in perfect health, for instance, playing a game of tennis, you will find bacilli in that hemorrhage, and yet that man will go six or seven years before

he gives any signs in his chest of tuberculosis. So there are exceptions to that rule. However, if, in ordinary sputum, you find bacilli present, the incipient stage has passed.

The Doctor has given a most admirable paper and I am glad to have heard it and I wish to congratulate him upon it.

A CONSIDERATION OF PERICOLIC MEMBRANES WITH REPORT OF SEVEN CASES.

*By J. H. Taylor, M. D., Columbia, S. C.

T WOULD seem that the difficulties of diagnosing correctly intra-abdominal conditions were sufficiently great without any further complicating factors being injected. Yet our experience with pericolic membranes and bands together with that of others has been so illuminating, and has emphasized so strongly their importance as a distinct surgical entity, that we desire to direct your attention to them.

The recognition of membranous films attached to the colon is no new observation, having been described by Virchow many years ago. On the other hand, it remained for J. N. Jackson, in December, 1908, to appreciate and point out their true significance as potent factors in the production of serious pathological conditions.

These structures are variously placed in relation to the large bowel, from the sigmoid flexure to the first few inches of the ileum, and according to their site they masquerade under the names of the different men who first described them.

Jackson's membrane, or veil, is a broad layer of serous membrane more or less thick, which arises from the mural peritoneum of the right postero-

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

lateral wall of the abdomen. It may extend in its origin from beneath the liver to a point opposite the cecum. From thence it passes over the anterior wall of the first part of the transverse colon blending with the peritoneum of these structures usually at the mesenteric attachment, but at times stopping at the anterior longitudinal band.

The bloodless fold of Treves passes from the mural peritoneum over the front of the cecum. The band producing Lane's Kink, passes from the right pelvic wall to a point on the ileum near the ileo-cecal valve.

The ileo-pelvic band is described by Lane as a "new and acquired distinct peritoneal ligament which attachs itself progressively to an era of the ileum more and more distant from the attachment of the normal mesentery."

These adventitious membranes, on close study, are seen to be entirely different from an ordinary inflammatory adhesion between the guts or of the gut to the wall of the abdomen.

In the typical case, beautifully illustrated by Case II, it is a fine, veil-like transparent membrane with a few delicate blood vessels. Where it passes over the gut it can be stripped off still leaving intact the epithelial layer normal to the visceral peritoneum.

In other cases it is more or less thickened and attached to the gut wall rendering removal entirely out of the question.

As to the origin of these membranes three theories have been put forth.

- (1) That they are Evolutionary.
- (2) That they are Congenital or Developmental.
 - (3) That they are Inflammatory.

The evolutionary theory (Lane) explains their presence as bands giving added support to salient points of the large gut that would tend to sag down when man assumed the erect posture.

The congenital or development theory (Mayo, Cheeves and others) attributes their formation to a faulty rotation and descent of the cecum. Either the cecum slips down behind a fold of the mural peritoneum, thus covering itself with the membrane or else the cecum rotates to the left after adhering to the perietal peritoneum covering itself with the membrane, "as a man rolls himself in a blanket."

Finally the inflammatory theory ascribes them to the "result of long continued or oft repeated mild infections of the peritoneal covering of the cecum and appendix transmitted through the intestinal wall." (Pilcher.) (1)

While our experience has not been any too extensive yet we believe the inflammatory theory to fit in with our observations more perfectly than the first two. However, Eisendrath (2), the chairman of the committee, appointed by the Western Surgical Association to report on the true significance of these structures, calls attention to two types:

- (1) Those which are innocent.
- (2) Those which may cause mechanical interference with the function of the colon.

All, he believes, represent a change from an innocent fetal structure to a distinct pathological entity.

The symptoms which these pericolic membranes give rise to depend upon the degree of interference with the mobility of the gut. Of the local symptoms we would first emphasize one that we have not met with in the literature, but was present in five of the six living cases coming under our observation. Pain referred down the anterior and inner aspects of the right thigh, in one case to a point below the knee, and, associated with this, a tired feeling in the limb. Just the explanation of this

we cannot say, but assume it to be a reflex corresponding to the epigastric pain of appendix inflammation.

Quite constantly present also in these cases are discomfort in the right iliac region, increasing to a distinct pain at times and tenderness on deep pressure. The points of greatest tenderness seem to vary from high up towards the hepatic flexure to low down in the pelvic region. Exacerbations of this tenderness may be incited by undue exercise, and indiscretions of diet.

The salient point, however, in the entire picture is the association of this right-sided tenderness and pain with the symptoms of obstruction and stasis, mainly constipation and auto-intoxication.

"This defective fecal drainage takes place in the cecum and ascending colon just where the bowel is least prepared to accommodate stasis. Into the cecum and adjacent ascending colon pour the fluid contents of the ileum. Intestinal bacterial activity is here at its highest point, the supply of organic material in the most favorable condition for putrescent changes is continuous and the absorbents are abundant and active."

"Drainage from this portion of the intestines should therefore be always adequate and prompt, and whenever it is interferred with the symptoms of auto-intoxication become at once a prominent element in the symptom complex that attends the condition." (Pilcher.)

Jackson in his article claims in addition to the above symptoms a chronic mucus colitis, but this has not been a factor in the cases that have come under our observation.

As the closing scene in the symptomatology, there gradually develops a neurasthenic state, brought on by the constant discomfort and the autotoxaemia.

The management of these cases can be very simple or else very difficult.

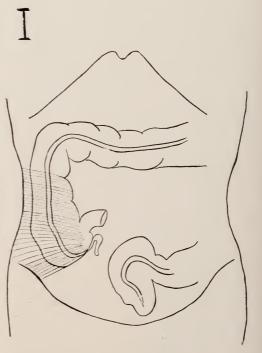
The object striven after is the relief of the constricture and interference with the function of the gut, without subsequent adhesion.

In the case of the Jackson's veil, oftentimes it can be stripped from the bowel, leaving intact the normal visceral peritoneum, without subsequent abnormal attachments.

After the membrane has become thickened, and firmly adherent to the gut wall, however, its removal then is out of the question, and we must divide it at or near its attachment to the mural peritoneum, closing over any raw surface left.

Case No. 1.

Was in the case of a thin, neurasthe-



nic, trained nurse, 32 years of age. In January, 1908, when three days out on the water from New York to Jacksonville, she noted, while vomiting from seasickness, a pain along the right abdominal wall.

The pain became quite severe and lasted all night, leaving her sore in the right side for three days. Her temperature rose during the night to 101. Accompanying this attack was pain down the right thigh to the knee, and associated cramps in right calf. For the following six weeks she was free of discomfort. Then one night the same pain reappeared, not accompanied by nausea or fever nor was it as severe as the first attack, and lasted only that night, leaving her sore again in the right side for two or three days.

The third attack occurred eighteen months later in June, 1909. With this she had diarrhoea, nausea, vomiting, fever and again the pain in the right thigh, with persistent right-sided soreness for some days. From then on she was seldom free of discomfort in the right side and always felt for that part a sense of protection, especially in going up and down steps. Off and on recurred the pains and cramps in the right thigh. Punctuating this discomfort every month or six weeks would occur a mild attack of real pain.

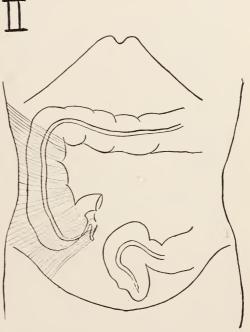
Gradually she became more irritable and nervous and during one year she lost thirty-five pounds.

On operation was found an appendix showing only slight signs of chronic inflammatory changes and bound up in the meshes of a fairly dense pericolic membrane that extended from the head of the cecum to an unexplored distance up the ascending colon.

Case No. 2.

A young school girl of seventeen, slender and likewise very neurotic, became conscious in 1910 of a pain in the lower right side of the abdomen, especially noticeable in running and walking fast. This remained as a discomfort without being genuinely painful up to August, 1912, when it deep-

ened into pain so severe that she was confined to her bed for two weeks. During this exacerbation was noted first the pains extending down into the right thigh to the knee. The sensation was one of an aching pain, with a constant feeling of tire in the limb. There was no nausea or vomiting, but she



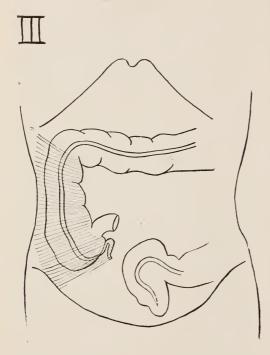
claims to have had a little fever off and on.

Constipation was a prominent feature of the conditions and since 1908 she has been subject to frequent headaches. With the persistence of the right-sided discomfort, pains in the thigh and headaches, she gradually became more and more neurasthenic.

On July 27, 1914, she came to operation.

Then was found a small atrophied appendix and passing from the right lateral wall of the abdomen was a thin slightly vascular transparent membrane covering the anterior surface of the cecum and ascending colon, blending with the perietal peritoneum at the mesenteric attachment. Where it

passed over the surface of the gut, it could be lifted off as a veil is lifted



from the face, but connecting it to the gut were numerous fine cobweb-like structures.

Case No. 3.

On October 25, 1914, a married woman of thirty-three presented herself for examination. Five years previous she began to have a dull aching in the right side of the abdomen, at times becoming general. At first it came with intervals of absence, but for the past year it has been constantly present in the right side.

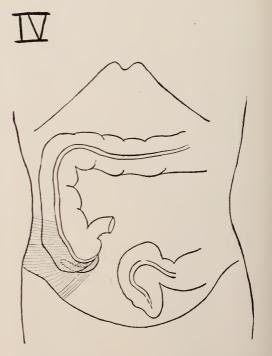
During the past year, also, she has noticed at times a pain extending down into the right thigh to the knee. Furthermore she has had in the past year three distinct attacks of the same pain in the side, putting her in bed for from one to three weeks.

For the past three years toxic headaches have been severe and frequent and constipation has been a prominent symptom throughout. About four weeks ago the pain gradually began to increase, finally becoming so severe she called in her physician and was confined to her bed. In addition to the pain she was very tender in the right side. Turning on the left side would intensify the pain with an accompanied tugging and dragging sensation in the right side.

She came to operation a bed-ridden neurasthenic, invalid. On operation a chronically inflamed and adherent appendix was found. Covering the entire cecum and firmly adherent to its anterior surface and to the ascending colon was a dense, heavy pericolic membrane arising from the right mural peritoneum. It was imposible to separate the adventitious structure from the gut wall, so firmly were the two incorporated.

Case No. 4.

A negro lad of seventeen—vigorous



and healthy gives a history of slight pain in right lower side of abdomen, paroxysmal in character, on February 14, 1915.

For a wek he played around, the pain just sufficient to keep him from working. There was no constipation. On the 21st the pain became much more severe and for two days it was quite troublesome. Following this it gradually eased up, but "grumbled like an old tooth" until March 12th, when it flared up again.

Since this date the side has been quite tender and painful. There has been no nausea or chill. On the night of March 14th, he thinks he had high fever.

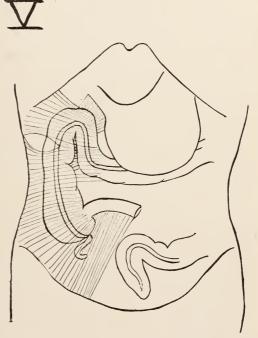
Operation revealed a subacutely inflamed appendix, situated posterior to the cecum. So firmly was it bound down by adhesion that it had to be stripped from its bed.

Passing across the cecum from the right abdominal wall was a dense band of membrane about two and a half inches in width. It was transparent and movable on the visceral peritoneum and blended in the inner border of the gut with its serous coat..

Case No. 5.

A man thirty-four years of age, with a strong neurotic history on both sides of the house. For the past eight or ten years he claims to have had a pain suggestive of a dull headache in the left side and back of the head. appears when he is worried, and according to his statement he is worried all the time. He has not enjoyed a sound night's rest in ten years owing to insomnia and dreams. Occasionally he has to take a laxative for constipation. For the past three years he has had at times eructation of sour material after eating, with a choking sensation in the throat. His present illness dates back eight years, at which time he became conscious of a feeling of soreness in the right lower side of the nausea, vomiting or fever, nor has it abdomen. This has gradually become more and more constant in the last three years, sometimes manifesting itself as a drawing feeling, at others as a dull ache, and again as a burning sensation.

These always occur around the appendix region. There has never been



ever been acute enough to warrant the taking of an opiate. Even on awakening in the morning he is conscious of this discomfort, and for the past six months not a day has passed that it has not been present. His weight now is the same as it was four years ago. In December, 1914, his condition was diagnosed at the Mayo Clinic, as probable chronic appendicitis and operation was considered not advisable.

This man is a thin, typical neurasthenic. His tenderness is limited to the area of the normal situation for the appendix.

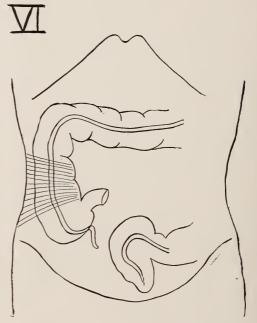
On opening the abdomen a dense membrane was found arising from the right lateral wall of the abdomen, be-

ginning above under the liver and extending to about two inches below the hepatic flexure. Here there was a definite hiatus in the membrane. Beginning again probably half an inch lower down, the attachment extended on down into the right pelvic region. From this attachment it extended over the anterior surface of the ascending colon, hepatic flexure and first four inches of the transverse colon, binding firmly together the ascending and transverse portions covered by the membrane giving the so-called "double barrel shot gun" appearance. Furthermore, it blended above with the right border of the omentum for a distance of perhaps two and a half inches, and passing down, this membrane covered continuously the cecum and blended with the mesentery of the last three inches of the ileum at its attachment The most striking feature to the gut. of the whole picture was the fact that the appendix lay loose with its mesentery in a little pocket and through the transparent membrane covering this pocket the appendix could be slipped about freely and seen perfectly.

Case No. 6.

On April 8, 1915, a sixteen year old girl consulted us giving the following history: Five months ago pain appeaed in the epigastrum, later radiating throughout the abdomen and finally localizing in the right lower side. Accompanying this were nausea, vomiting and fever. Since this attack, pain has been practically present continuously in the right side. On April 5, this pain became very severe and since this date has been much aggravated, with intervals of ease.

For the past three months she has noticed the presence of pain in the upper thigh, never extending as far down as the knee, however. Accompanying this was also a numb feeling in the upper thigh, worse in the afternoon. On operation was found a chronic inflammation of the appendix and passing over the cecum and first portion of the ascending colon a dense perocolic membrane with well defined upper and lower borders. This blended with the peritoneal cov-



ering of the gut to such an extent that its removal here was not advisable. The gut was freed by severing the attachment of the membrane to the mural peritoneum.

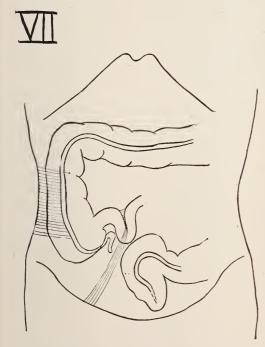
Case No. 7

Incidentally during the autopsy on a man of thirty-seven, dying of thrombosis of the superior mesenteric artery, was found a well marked membrane as indicated in the drawing, and in association with this was a distinct ileopelvic band attached to the ileum about an inch and a half from the ileocecal valve. Here the band had produced the angulation known as a Lane's kink.

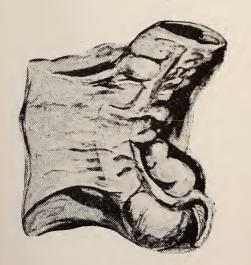
So far as we know there had been no

symptoms during life traceable to these structures.

In conclusion we would ask that you



consider for a moment the grave injustice possible to be done a patient seek-



"Slightly altered copy of a wash drawing showing a pericolic membrane appearing in a paper by Eisendrath & Schnoor, Annals of Surgery, Vol. Lx, No. 5."

ing relief from right-sided abdominal pain by failure to bear in mind the possible presence of a pathological membrane. Rather than a small buttorhole incision with the appendix only delivered as is so often done, the operation should be so designed as to permit of a thorough inspection of the entire lower end of the ascending colon. Any structures then found interferring with the normal motility of the gut can be divided if feasible.

Often the appendix plays but a small part in the production of the symptoms from which the patient seeks relief, and while its removal is entirely advisable, yet, if that only be done, both doctor and patient have but disappointment for their portion.

References:

- 1 Pilcher L. S., Annals of Surgery, vol. LIX No. 1.
- 2 Eisendrath and Schnoor Annals of Surgery, vol. LX, No 5, page 622.

DISCUSSION.

Doctor Browning:

I would like to say that one of the cases reported by Dr. Taylor was one of mine, and I am not going to tell you what this Jackson veil was or where it came from. I leave that for you surgeons to decide, but it was certainly an interesting case to me. Of all the number of cases carried to the hospital I had never seen one before, and I was delighted to see it, and I believe the constipation the patient had was due, to a great extent, to this veil, because she had colicky pains sometimes, getting very painful. There was a distinct veil there, easily seen. You could put your finger above or below, under this veil, and it was a distinct veil formation. I am not a pratitioner who claims to be able to cure appendicitis. I think surgery has its place, and when I decide the case is a surgical one I believe in getting the patient to the surgeon as quickly as possible. I have taken some 200 and never lost but one, and that was due to an accident.

Doctor Thayer:

I am sorry to say that I missed the first part of this paper. I wish I could add something to it. It (Thrombosis of the Mesenteric Vessels, Case No. 7), is a very unusual condition. I have only seen two similar instances.

Doctor Taylor closes:

An X-ray picture of a bismuth meal of Case No. 5 might be of interest. It shows very prettily both the kink at the hepatic and the splenic flexures. (Reads from Case No. 5 of paper.)

THE MODERN HOSPITAL LABORATORY.

*By T. R. N. Wilson, M. D., Greenville, S. C.

N THIS occasion, the re-opening of the Dr. W. H. Nardin, Sr., Memorial Library, I feel highly honored in being designated as one of those who shall address you at this rededication of a department of medicine that has made itself so important in methods of diagnosis. An established necessity so far-reaching that, not only in medicine are its results constantly sought, new brought to light, tried, and proven, or discarded as useless. among us has strength of his conviction enough to announce to the medical world some new remedy or process without first trying out in the laboratory that remedy, or process and proving its value.

The subject assigned me, The Practical Side of the Operation and Maintenance of the Modern Hospital Laboratory, is a broad field covering as it does the workings inside and the applications of results outside.

I am going to speak more especially upon the working aids to the laboratory director, and, though these remarks are time worn, still they will aid in the laboratory work. They will get for you better, more prompt results, than

*Read before the Anderson County Medical Society, May 26th, 1915.

a random method, for system is the essential life of laboratory work if it is of any work.

The practical side of laboratory work must depend upon the laboratory director and the co-operation extended by the practitioner. This should be a co-operation, as to time, when specimens are sent to the laboratory, and character of containers of specimens. Specified time of course does not apply to emergencies, only to routine work.

There should be an examination of urines in all cases entering the hospital, especially before operation, but should include all cases. If abnormalities are present, these will be used to govern the Anesthesia and operation to a certain extent. These examinations should include Sp. Gr. reaction, albumen, sugar, indican, acetone, diacetic acid, microscopical, and frequently the urea output.

If abnormalities are present such as albumen, casts, pus that may be indicative of pus kidney; post operative examinations should be made, the result noted, that we may apprehend any danger to patient.

These abnormalities when present must be considered from more than one standpoint and in order that the laboratory director be able to give an opinion upon these subjects it is essential that they know something at least of the physical condition of the patient, that has brought about such changes from the normal.

It is an arbitrary point as to when the specimen of urine shall be collected, but for practical uses the first morning voiding gives good results, however, in the cases where there is a suspicion of sugar, that after a meal should be examined, as frequently these specimens will show glucose when others do not.

Specimens from the outside especi-

ally during the hot weather should be sent to the laboratory as early as possible after voiding or some preservative used to insure against changes that may alter the specimen.

I wish to emphasize the point about the urinary analysis. One examination of a single specimen frequently does not show the true state of affairs. To illustrate: The examination of three specimens taken at different hours the same day, first and third contained albumen. First hyalin, and granular casts, third hyalin casts, few, second no albumen or cast. All three contained calc. oxalate. Another case where seven voidings in twenty-four hours were examined, two showing no sugar, five varying from 0.5 per cent. to more than six per cent of sugar. Again, morning and late afternoon specimens differ frequently.

The full twenty-four hour specimen gives the best results and is most satisfactory, but not necessary in all cases. Where eliminations of the mmm Cl. P205, NH3 and U are called for, twenty-four hour specimens are required.

In cases where a pathological kidney condition is present prior to the operation the kidney function test phenolsulphonphthalein should be applied.

The Blood Examination.—The estimation of haemoglobin that some years ago meant an error of from 5 to 10 per cent has been improved upon, until, today it is within 1 per cent, is of value to the surgeon and internist alike. The color of the mucous membranes indicate an anaemia or otherwise, but the Haemoglobinometer tells us to what extent the anaemia exists. With the number of red blood corpuscles we are in possession of, as we may say the per capita Hb. The shape, size, content, staining properties are all of value in the summing up of cases.

The leucocytes is an indicator in many disease processes, but is of special value numerically to the surgeon in the acute inflammatory processes. The total number of leucocytes with the differential count in these conditions are to us a direct index as to the severity of infection, and the vital fighting force being put forth, and, frequently has given the surgeon warning that he must go ahead or wait.

The collection of blood, for these tests for Hb red or white the count, must be collected by the one doing the work as they are delicate, exacting, and require practice for efficiency. The collection of blood for the Widal should be in pippets and quantity sufficient to allow collection of serum, though the dry blood specimens can be used.

For the Wassermann and complement fixation tests from 15 to 20 CC of blood at least should be collected. And in considering the report received on these specimens with clinical conditions, remember a negative report may simply mean a delayed reaction and must further be pursued.

The examination of feces has of late years been pursued more carefully than in the past, and not only do we look for parasites and ova, but the examination for blood which may come from any part of alimentary canal, still is of value when persistently absent on a meat free diet in eliminating ulcer. These examinations have in Greenville as elsewhere been the means of clearing up the diagnosis in many cases of infection by Endamoeba Histolytica and their being properly treated as well as other types of infection.

If there are pus smears to be sent to the laboratory for direct examination, have your slides clean, make your smears thin, dry in the air and then heat slightly before putting slides together. If for culture, collect on sterile swabs put into sterile containers.

Do not become discouraged with sputum examinations that come back negative, keep trying, if your physical signs point to tuberculosis, it is up to you doctor to prove that it is, or, that it is something else, and what that something else is.

I must speak of containers used in sending sputum for examination. I have received them reeking with tubercle bacilli in paper boxes, more outside than inside: in little glasses with no covers, in bottles the necks of which were so narrow I know that the patient had to use some means to force specimens in, other than gravity. Use a good stopper, in a wide mouth, clean bottle: and, the only way you can get your patient to do this is to supply the bottle for them.

There is a feature in laboratory work that appeals to me very much, the examinations of tissues following operations, for confirmation of diagnosis and to be considered along with the clinical findings that those in touch with the case may make deductions, as to how much bearing the clinical features had upon a proper, complete diagnosis. In many cases this may be done without delay by frozen sections, however, if time is not an element, one of the slower methods give more satisfactory results for minute study. The frozen section method is used where the diseased tissue being removed the surgeon requires immediate report.

The working of the X-Ray department of laboratory procedure has added much in these latter years to the lessening of deformities and in proper setting of fractures, and aiding in diagnosis. The fact that the X-Ray work is done at the hospital adds much to the value of the equipment and is

surely of such importance as to need no comment.

Report of Cases of D. T. and X-Ray Examinations.

Still I would like to report one case where the patient had been gotten ready for operation because of gastric tetany. Before going to the operating room an X-ray was taken and disclosed the fact that there was a destruction of bodies of 9th, 10th, and 11th dorsal vertebras. Relief of pressure, rest, extension, and after that a properly fitted brace, stopped all trouble and the patient gained weight, strength, and health.

Many of the reports that you receive from the laboratory tell you such and such conditions are present, albumen, hyalin, granular casts tell you there is something the matter with one or both kidneys. But a kidney condition of this kind did not originally begin within the kidney. What about that patient's blood pressure, his habits, food, bowels. Every one of you begin to look deeper into your cases when these reports unexpectedly come to you, because there is a cause outside the kidney.

The maintenance of a laboratory means much, to keep up this requires your hearty co-operation morally and financially, direct or indirect, and if you lend to your laboratory department the aid it deserves, you and your patients will reap benefits, time and time again, "Make a diagnosis," let the laboratory help you make the diagnosis. It will do that, and you will have confirmation of your physical examination. We like that confirmation, and will use the laboratory more and more to get it, or its equivalent a cleared up obscurity that was not just like the one preceding.

THE BOGIE OF INTESTINAL AUTO-INTOXICATION.

Geo. M. Niles, M. D., Atlanta, Ga.

NTESTINAL auto-intoxication is an overworked term, not only among the medical profession, but the laity as well. Much misleading literature on this subject has been written by pseudo-health teachers, who in picturesque language and particularly of detail, have luridly described the dreadful ills likely to befall the unfortunate sufferer who is afflicted with this awful but indefinite condition.

The idea had often occurred, and been vaguely expressed in the older medical literature, but it gathered a new impetus when there came into vogue the high sounding Greek word copremia, literally meaning "excrementitious-substances-in-the-blood," in the early part of the nineteenth century.

This suggestion took root and grew apace, until Bouchard, a generation later, published his convincingly written book on the subject. In this volume he apparently demonstrated how much toxic material was absorbed from the intestines, as an experiment using the urine for injection into animals. His experiments, in the light of present knowledge, were open to serious objections, and many of his conclusions are now discredited.

Parenthetically, it will be interesting to note in future years the mental attitude of those who are now "harping on the string" of the tonsils, and indicting those glands as the arch malefactors in the etiology of divers and sundry diseases.

Arthur Hertz, in his book, "Constipation and Allied Intestinal Disorders," reviews the whole subject, and shows that we are without any definite conclusive evidence for what has been talked and written about so much.

The leaven which was placed by Bouchard's fertile mind, continued to grow in the impressionable mentalities of his disciples, until these disciples occupied an even more advanced position than their master, making the term a shibboleth for every diagnostic puzzle and a tower of refuge when hard pressed by hard-headed inquisitors "from Missouri."

Thus auto-intoxication has become a sort of bogie, the more alarming because it is so mysterious; and frightful, because it is so indefinite.

Many persons who have read much, and are deeply interested in the subject of auto-intoxication, become sure that the slighest delay in intestinal evacuation may be serious, or that it may profoundly disturb their physical economy. If for any reason, they fail to have a movement at the regular time, they begin to worry, and in a few hours they begin to search their feelings for the dread symptoms of autointoxication. After two or three more hours they begin to have a headache, then, perhaps they feel so badly that they have to give up work for the day. Further worry will cause their sleep to be delayed or troubled, and they wake unrefreshed, while practically, if not entirely, all of these symptoms are due to auto-suggestion

The writer hears almost daily recitals of obscure symptoms arising from supposed reabsorbtion from the intestines, where a logical analysis will prove most of the complaints due to introspective fear.

Regular evacuations of the bowels are necessary, and full and free emptying of the large intestine at frequent intervals is conducive to health, comfort and longevity. While it is the custom of most civilized human beings after infancy to have one movement of the bowels daily, this is not a hard and fast rule. Many there are, who normally evacuate their bowels twice daily, and would suffer some inconvenience if this were interferred with. Many others find that an evacuation every other day is entirely sufficient, and enjoy good health under this habit. There are exceptional instances of individuals who have habitually emptied their bowels at intervals of several days, or weeks, or even months. and have lived long and active lives, seeming, at least, to enjoy a fair amount of health.

I have in mind a man, now over fifty years of age, who states that never since a child has he had a fecal movement more often than once every ten days—sometimes two weeks. He is now an active and successful business man, has had no severe illness in his past life, and his present appearance promises many active years to come.

Walsh relates the case of a French army officer, who from his earliest years, did not have regular movements of the bowels, but secured evacuation of them by artificial aid once every two months or more. He lived to the age of past fifty, dying from an intercurrent disease not connected with his intestinal condition, having in the meanwhile enjoyed good health. He was able to accomplish his duties as an officer without any special allowances, and was in the sick list much less than many brother officers, whose intestinal condition left nothing to be desired. This man succeeded in doing his life work without his condition being known by others to any extent, and it was only inconvenience and not serious illness that he suffered from. After his death, it was found that certain folds of the lower bowel were so large as to meet across its lumen, making shelves and pouches in which the fecal material accumulated, preventing the movement of the bowel contents above.

In the Orient, it is reported that many, especially of the better class do not expect to have movements of their bowels every day. Some of them do not encourage this function more often than once a week, or even more sel-As their diet is more largely vegetable than ours, this is all the more surprising. The average life of such people does not seem to be much below the Occidentals, and the difference is probably accounted for to a great extent by other hygienic practices, rather than this failure to have regular movemnts. In the meantime. they do not suffer any particular inconvenience, and seem as free from the ordianry aches and pains of life as do the people of the West.

It appears that if such a custom is established in the early life of an individual, that Nature becomes able, by some power of compensation, to either overcome or neutralize the toxins which would tend to be absorbed from the large intestine.

Our patients should be admonished of the great need of regular evacuations of the bowels, and should be urged in the interest of health to educate their subconscious powers, under whose control are the initial peristaltic impulses, to persue this custom, so far as possible, with clocklike punctuality.

The intestines are, to a perhaps greater extent than any other organs of the body, creatures of habit. If, therefore, they are emphatically instructed and almost forced to expel their fecal contents at a stated and particular period of each day, the habit will soon be formed, and it will only be necessary to promptly listen to the "still small voice" that each morning issues the call. The habit of "regular bowels" can be formed by care and perseverance, while the bonds

of constipation can be forged by carelessness and indifference to the calls of Nature—calls that soon cease if unheeded.

On the other hand, our patients should not be permitted to become abject slaves to the fear of intestinal auto-intoxication, but should be intelligently instructed concerning elimination from this tract.

Thus, when those dependent upon us for advice concerning problems of both bodily and mental well-being, are brought to a correct apprehension of intestinal hygiene, we may fitly say in the words of the greatest of Teachers, "Ye shall know the truth, and the truth shall make you free."

QUESTIONS ASKED BY THE STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA, JUNE 1915.

Dr. E. W. Pressly, Examiner.

Obstetrics.

- 1. Name the foetal envelopes from without inward.
- 2. Describe the vitellus, the allantois, the amnion and its contents.
- 3. Describe the development of the placenta.
- 4. As pregnancy progresses state the important changes, physical and mental that occur, or may occur, in the disposition and organism of the pregnant woman.
- 5. Describe the gross anatomy of the mammary glands, give the changes which occur in them during pregnancy, and give the management of the glands in case the infant is stillborn or if for any reason nursing is considered inadvisable.
- 6. Name the varieties of glycosuria that may occur in pregnancy, give their significance and management.
- 7. Give the etiology symptoms and treatment of the albuminuria of pregnancy without anatomical kidney lesion.
- 8. Describe the conditions mandatory and elective, under which caesarian section is done and give in general terms the method of doing the operation.

- 9. Diagnose a face presentation, L. M. A. position, and give mechanism and management of the same.
- 10. Give management of a brow presentation, R. M. P. position.
- 11. Name and describe the common varieties of obstetric forceps, give general indication for their use, and describe their use in any given condition that you may choose.
- 12. Summoned to a patient about seventy-two hours into her puerperium, and given a history of a recent chill, and present rise of temperature, with diminution of lochia, name the conditions one of which is probably present and differentiate between them.

N.B.—Answer any two of questions 1, 2, 3, and 4. Each of the remaining questions demands an answer.

Dr. H. L. Shaw, Examiner.

Materia Medica:—Junior Curriculum.

- 1. What preparation of Iodine and Mercury would you combine for internal use: what is the dose of each?
- 2. Name two or more preparations of Digitalis and give dose of each.
- 3. Give dose and Therapeutic effect of Atropine, Tr. Nux Vomica, Fowler's Sol. Arsenic, Fl. Ext. Ergot, Tr. Opium.
- 4. Name a Vaso-Dilator, a Vaso-Constrictor, a Hydrogogue Cathartic, a Cholagogue Cathartic, a Diuretic and give dose of each.
- 5. Write a prescription in compliance with "The Harrison Anti-Narcotic Act" for a cough mixture containing Codiene.

Therapeutics:-Senior Curriculum.

What drugs would you use in treating the following diseases: Give dose, frequency and therapeutic effect. If therapeutic agents employed other than drugs tell how they should be used.

(1) Gastro-Enteritis in child two years old. (2) Measles. (3) Acute Catarrhat Dysentery in Adult. (4) Diabetic Coma. (5) General Anasarca accompanying cardiac insufficiency. (6) Spasmodic Croup. (7) Renal Colic. (8) Cholera Morbus. (9) Chlorosis. (10) Scarlet Fever.

Dr. J. J. Watson, Examiner.

Practice of Medicine.

1. Describe a case of Landry's paralysis: acute ascending paralysis.

- 2. Give etiology, symptoms, physical signs and possible terminations of pulmonary infarcation.
- 3. Mention the causes of Cardiac Hypertrophy.
- 4. Describe a case of acute Hemorrhagic pancreatitis, stating the diseases with which it might be confounded. Give their diagnostic differences. What treatment would you recommend for a case of acute Hemorrhagic pancreatitis.
- 5. Mention the characteristic blood findings in (a) Pernicious Anemia; (b) Myeloid Leukemia; (c) Lymphatic Leukemia.
- 6. Define diphtheria. State its most frequent sequellae.
- 7. A man fifty years old complains that he has a cough, dyspnoea on exertion, has noticed for the past three months that his feet were swollen at night. What diseases might cause such symptoms? Briefly differentiate the diseases mentioned.
- 8. How would you recognize dilatation of the stomach? What are the causes and how would you differentiate them?
- 9. Enumerate the conditions of the kidney which may give rise to an abdominal tumor, and state how you would make your diagnosis as to its nature and origin.
- 10. What are the most reliable physical signs of fluid in the plural cavity?

Dr. John Lyon, Examiner.

Bacteriology and Pathology:—Junior Curriculum.

- 1. How do bacteria multiply? What is meant by the terms aerobic and anaerobic bacteria?
- 2. What are the staining peculiarities of the bacillus tuberculosis?
- 3. Describe the diplococcus intracellularis. Where is the organism found and how is it identified?
- 4. What are the causes, results and terminations of thrombosis?
- 5. Describe the microscopical structure of sarcomata and carcinomata and give the usual mode of extension of each.

Gynecology:-Senior Curriculum.

- 1. Mention two common causes of hemorrhage from the non-pregnant uterus. How would you differentiate them?
- 2. Give the causes and treatment of retrodisplacements of the uterus.

- 3. Differentiate Salpingitis in the right side from appendicitis.
- 4. Describe an operation for removal of the uterus. When is it indicated?
- 5. Give the causes and treatment of amenorrhoea.

Pediatrics:-Senior Curriculum.

- 1. How would you diagnose and treat flatulent colic in an infant? What food constituent is the usual cause of this condition?
- 2. Give the causes, consequences and treatment of otitis media.
- 3. What diseases may diphtheria simulate and how would you differentiate them?
- 4. Give the symptoms and treatment of pertussis. What is its most serious complication?
- 5. Give the symptoms and treatment of acute anterior poliomyelitis?

Dr. J. T. Taylor, Examiner.

Senior Anatomy.

- 1. Name the blood vessels and nerves encountered in ligation of the Brachial artery in the middle of the arm, giving their positions in relation to the artery.
- 2. For what anatomical reason should wounds of the scalp be closed loosely?
- 3. Where is the pain located when the maxillary division of the fifth nerve is affected?
- 4. When sarcomata wander from the seat of primary growth, where do they appear and why?
- 5. Describe the space that should be selected for doing a paracentesis of the pericardium and give your reason for this selection.
- 6. With pus beneath the thick middle portion of the Palmar Fascia, name the points at which the abscess is liable to point.
- 7. How is collateral circulation established after ligation of the common Carotid artery.
- 9. With a hemorrhage into the pons below the point of decussation of the seventh nerve, what portions of body will be paralyzed?
- 10. Where, in the stomach, is carcinoma most apt to occur and why?

Junior Anatomy.

1. Describe the liver and give its blood supply.

- 2. Describe the unrinary bladder.
- 3. Describe the left lung and give its blood supply.
 - 4. Describe the Inferior Maxillary bone.
- 5. Describe the formation of the Brachial Plexus.

Dr. Harry H. Wyman, Examiner.

Surgery.

- 1. Differentiate between acute synovitis of knee joint and acute osteomyelitis about joint, and give treatment of each.
- 2. In excision of knee joint give details o foperation and after treatment. Outline flap used.
- 3. Describe and outline various flaps used in amputating in different regions from ankle joint to middle of thigh.
- 4. Make a preparative diagnosis in a woman suffering with tenderness in right side of abdomen from ribs to pelvis, with occasional paroxysms of pain; daily slight rise of fever with albumen in urine.
- 5. Give indications for enucleating an eyeball and describe an enucleatoin.
- 6. Describe the anaesthetic state from ether and chloroform.
- 7. Operate for necrosis of shaft of tibia. If you found all of a section of the bone destroyed and the periosteum intact what would you do?
- 8. What organs and regions does a right rectus incision allow access to. Describe the technique of making the incision and the closing of it.
- 9. Give the varieties of hemorrhoids and give in detail the operation of removal of internal hemorrhoids by both suture and clamp and cautery methods.
- 10. Treat fracture, both immpacted and unimpacted, in a very old person.

Dr. N. A. Brailsford, Examiner.

Physiology.

- 1. What is an Enzyme? Mention one and describe its action.
- 2. What important centres are situated in the Medulla Oblongata?
- 3. Discuss the Lymphatic System.
- 4. What changes occur in the course of the circulation at birth?
- 5. Mention the glands of Internal Secretion. What are the theories in regard to their respective functions?

Hygiene.

- 1. Discuss briefly artificial heating in its relation to ventilation.
- 2. What are the general rules for ventilating a room by providing inlets and outlets, as to size, location and number?
 - 3. What are thesources of water supply?
- 4. Discuss milk as a factor in the spread of disease.
- 5. What diseases are transmitted by mosquitoes?
- 6. (a) Describe the mosquito causing malaria. (b) What measures would you adopt to destroy them?
- 7. (a) Discuss room disinfection. (b) Municipal quarantine.
- 8. What diseases threaten soldiers and civilians in the tropics?
- 9. If you were a surgeon of a post or camp, what measures would you adopt to prevent disease among the troops?
- 10. How would you deal with an epidemic of Cerebrospinal Meningitis?

Dr. A. Earle Boozer, Examiner.

Chemistry:--Junior Cirruculum.

- 1. What is the amount of CO2 in the at mosphere and why does it not increase?
- 2. How does Ferric Hydrate act as an antidote for the poisonous properties of Arsenic?
- 3. What are the chemical properties of HNO3 and into the composition of what explosive does it enter?
- 4. What is calcium sulphate? What peculiar property renders it useful in surgery?
- 5. What are the diagnostic uses of electricity?

Urinalysis, Microscopy, Toxicology, and Medical Jurisprudence.

Senior Curriculum.

- 1. In the examination of urine, how would you differentiate precipitates of urates, earthy phosphates and albumen?
- 2. Name several drugs that render the urine alkaline; give their indications and methods of administration. What class of acids would you give to acidify alkaline urine?
- 3. What casts are frequently found in albuminous urine and what do they denote?
 - 4. What is Hematuria? What condi-

tions cause it and how does it appear microscopically?

- 5. Name four conditions in the physical organisms which would modify the effects of poisonous drugs.
- 6. What two remedies are especially indicated in chronic lead poisoning? Describe the action in said condition.
- 7. How would you differentiate between true poisoning and diseases which simulate poisoning?
- 8. In examining vomited matter or a stomach suspected to contain phosphorus, what simple methods would show its presence?
- 9. How would you distinguish between and accidental abortion?
 - 10. What are the signs of death?

Dr. E. W. Pressly, Examiner.

Nurses:-Obstetrics.

- 1. Define colostrum, meconium and ectopic gestation.
- 2. What are the functions of the amniotic fluid and why should its retaining membrane usually be kept unruptured during the first stage of labor?
- 3. What is the placenta and how does a child receive nourishment therefrom, and why does not the mother suffer fatal bleednig when the maternal end of the cord is left untied?
- 4. What is the chief danger to a mother during the first six hours after delivery, and how would you meet it should the danger materialize after the departure of the physician?
- 5. Name the two kinds of hemorrhage and give symptoms of each.
- 6. What premonitory symptoms give warning that attack of eclampsia puerperalis is impending?
- 7. What complications are to be watched for and reported during the puerperium?
- 8. What are after pains? Describe and give treatment for them.
- 9. What instructions should be given primigravida as to care of the mother's nipple and the baby's mouth during a lactation?
- 10. State the difference between an adherent and a retained placenta and tell how each should be managed.
- 11. How would you recognize a retention of urine during labor, and how explain

the frequency of its occurrence after labor?

- 12. What is premature respiration, what occasions it, and what dangers arrive from it?
- N. B.—Answer any ten of the above questions.

Dr. H. L. Shaw, Examiner.

Nurses:-Materia Medica and Therapeutics

- 1. Give in detail your method of using cold water in typhoid fever: what are the indications for its use: when is it contraindicated?
- 2. Name two drugs that reduce fever and give average dose of each.
- 3. What is an expectorant, name one and give dose?
- 4. What is the dose of morphine and when is it indicated: what caution to be observed in giving it in the two extremes of life?
- 5. In the absence of a physician, how would you treat a case of morphine poisoning?
- 6. What is the therapeutic effect of normal salt solution? Describe in detail how you would give it subcutaneously?
- 7. Name three stimulants and give dose of each.
- 8. Name a nerve sedative, give dose and indications for use.
- 9. What is an Emetic, name one, and give dose?
- 10. How would you treat a patient who had fainted?

Dr. J. J. Watson, Examiner.

Nurses:-Practice of Medicine.

- 1. (a) Mention two diseases in which pleurisy is likely to occur. (b) During the course of a disease what symptoms would cause you to suspect that pleurisy had set in?
- 2. During the course of typhoid fever what serious complications are liekly to occur; at what stage of the disease would you expect them; what symptoms would lead you to suspect each complication mentioned?
- 3. What is Hyperpyrexia? What would you do for a case of Hyperpyrexia.
- 4. What are the characteristics of the stools in Dysentery? What in Diarrhoea?

5. If a child has Diarrhoea and commences to vomit, how would you manage the case, until you could communicate with the physician?

Dr. John Lyon, Examiner.

Nurses:-Dietetics.

- 1. Mention two foods that contain all the elements necessary for the maintenance of life.
- 2. What is the dietetic value of (a) water? (b) fruits and vegetables.
- 3. What precautions should be observed in handling milk? What disease producing organisms may it carry?
- 4. Describe the process of pasterizing
- 5. Explain the effect of heat on the digestibility of starches.
- 6. Explain the necessity of cooking eggs at a proper temperature.
- 7. What means are employed for preserving foods?
- 8. Give the dietetic management of pulmonary tuberculosis.
- 9. Give the dietetic treatment of habitual constipation.
- 10. Tell how to make the following: (a) barley water, (b) consume, (c) egg albumen, (d) junket.

Dr. J. T. Taylor, Examiner.

Nurses:—Anatomy.

- 1. Name the large arteries, veins and nerves of the forearm.
 - 2. Name the bone of the thigh and leg.
- 3. What artery carries venous blood and what vein carries arterial blood?
- 4. Describe the position of the ovaries in relation to the uterus, and state how communication is established between the ovaries and uterus.
 - 5. Name the orifices of the stomach.
- 6. What anatomical structure of frequent surgical importance is found near the ileo-coecal valve?
 - 7. Locate the forearm magnum.
 - 8. Locate the sigmoid flexure.
- 9. Name the divisions into which the bones of the vertebral column are divided.
- 10. Name the chambers of the heart and state which contain arterial and which contain venous blood.

Dr. Harry H. Wyman, Examiner.

Nurses:-Surgery.

- 1. Sterilize catgut, silkworm gut, glycerine, olive oil, a cocain solution.
- 2. Describe the different breast bandages and how applied.
- 3. Define a wound; name different kinds of wounds. How do wounds heal?
 - 4. How would you treat a sprain?
- 5. Give cause, prevention and treatment of bed sores.
- 6. What would cause distention of the abdomen after adominal operations. Give symptoms and treatment.
- 7. Give the ingredients of various enemas for relief of distention of the abdomen and the technique of administering them.
- 8. Irrigate the female bladder, giving details of technique and instruments and solutions used.
- 9. How would you remove foreign bodies from the ear, nose and throat?
- 10. How would you prepare a room in a country home for a major operation and what would you have ready for the operation?

Appendix:—Answer these questions as if you were a doctor answering them. Do not say that you would do as the doctor ordered.

Dr. A. M. Brailsford, Examiner.

Nurses:—Physiology.

- 1. What part of the brain presides over the co-ordination of muscular movement?
- 2. Mention the organs and glands concerned in digestion and the active principles of their respective secretions.
- 3. What constitutes the respiratory apparatus?
 - 4. What are the functions of the blood?
- 5. Mention the organ and nerve of each special sense.

Hygiene.

- 1. What precautions would you take in nursing a case of Scarlet Fever, in regard to the patient, the room, members of the family, and yourself?
 - 2. Mention three disinfectants.
- 3. How would you attend to an infant at birth?
- 4. Describe the hygienic care of a patient during normal puerperium.
- 5. What are the principal water borne diseases?

Dr. A. Earle Boozer, Examiner.

Nurses:-Practical Nursing.

- 1. State what remedies are used to reduce temperature. Explain how they accomplish this result and describe how used.
- 2. How would you administer (1) a vapor bath, (2) hot-air bath?
- 3. Give method of taking T. P. R. adult and child.
- 4. What precautions are necessary to prevent transmission of contagious diseases?
- 5. In what ways may a nurse contribute to the comfort of her patient?

SOCIETY REPORTS

ANDERSON.

After a month's vacation the Anderson County Medical Society resumed its work in September. The first meeting being held Wednesday, September 1st, with an attendance of sixteen members.

In the absence of the President, Doctor Henry, the meeting was presided over by Dr. J. C. Harris. After the reading of the minutes of the last meeting the business session was immediately entered into, during which several important matters were disposed of. Dr. J. B. Townsend was apponited essayist to the Fourth District Medical Association which meets at Easley September 28th.

The scientific program consisted of the following:

- 1. Placenta Praevia, by Dr. H. A. Pruitt.
- 2. Post Partum Hemorrhage, by Dr. J. M. Hobson.

These papers were very generally discussed by a number of those present

The mid-monthly meeting of the Anderson County Medical Society was held at the Hospital, Wednesday, September 15th, at 12 o'clock, twelve members being present.

In the absence of the President,

Vice-President Dr. H. A. Pruitt presided over the meeting.

As there was no business to come before the Society the scientific program was immediately entered into.

Dr. J. O. Sanders read an excellent paper on Neurasthenia. This was especially beneficial to all and was very ably discussed by several members.

Dr. S. C. Dean was to have had a paper on Hysteria but he was not able to be present.

Olga V. Pruitt, Secretary.

PICKENS.

The Pickens County Society met as usual the first Wednesday, at Easley.

Twelve memebers were present and most of our time was taken up on the subject of entertaining the District meeting.

We are arranging for a large attendance and hope to have one of the best meetings in the history of the Fourth District Association.

Under the head of clinical cases the writer presented a rather unusual case: A boy, 15 years old, with heart apparently reversed, i. e., the apex beat appears on the right side at about the same point that it should on the left. He had pneumonia two years ago, but the father and mother insist

that his heart was in this position from his early infancy. We tried to get him under the X-ray but so far have failed.

> J. L. Bolt, Secretary.

September 15th, 1915.

WILLIAMSBURG.

The Williamsburg County Medical Society met in regular session at Kingstree, S. C., Kellebon Hotel, on Monday, September 6, at 12 o'clock noon, the President, Dr. W. V. Brockington, in the chair. In the absence of the Secretary, Dr. A. G. Eaddy, Dr. J. H. Pratt acted as Secretary. The following physicians were present: Drs. W. V. Brockington, I. N. Boyd, W. G. Gamble, C. D. Jacobs, W. M. O'Bryan, E. O. Taylor, B. M. Montgomery, E. T. Kelley, T. S. Hemingway, J. H. Pratt. There was no special program prepared for this meeting, as there was considerable business, and the Society at once took up the subject of illegal practitioners of medicine in our county, and considerable time was devoted to its discussion and to remedy of law on same.

A committee consisting of Drs. W. M. O'Brayan and J. N. Boyd were appointed to notify an illegal practitioner at Greeleyville, that the Society requested his discontinuance of practice, or that he qualify by obtaining a license, and this committee instructed to report the physician's reply at next regular meeting.

Dr. W. M. O'Brayan was appointed to represent Williamsburg County Society at the Pellagra Convention in Columbia, Oct 20, 1915, with Dr. C. S. Jacobs as alternate, the County Society to pay expenses of delegate. On motion of Dr. C. D. Jacobs it was decided to publish in the County Record resolutions condemning all illegal practice of medicine.

There being no further business the meeting adjournment until October.

A. G. Eaddy, Secretary.

SPARTANBURG.

The Spartanburg County Medical Society at its regular monthly meeting, August 27th, was fortunate in having as a guest Doctor Goldberger, of the Public Health Service This being an unusual opportunity, the papers on the program were held over for a subsequent meeting, and the members present listened with great interest to Doctor Goldberger on the subject on which he stated he was always ready to talk, Pellagra. Doctor Goldberger, among other things, spoke of the work underway at the Epworth Orphanage, and invited the physicians to visit there and see the working plans by which he effected to eradicate pellagra, he also, on request, outlined the proper diet for pellagrins. He said that he felt that he could not emphasize too strongly the non-contagiousness of the disease, as Spartanburg seemed to be the home of the idea that pellagra is contagious.

L. Rosa H. Gantt, Secretary.

CURRENT MEDICAL LITERATURE

Some Common Mistakes in the Interpretation of Laboratory Reports.

Franz H. Harms, M. D., Pathologist of the National Pathological Laboratory, Chicago.

There is a tendency to diagnose a nephritis ipso facto when the laboratory findings show the presence of albumin, and the severity of the condition is gaged by the percentage of albumin present. The object of this article is to emphasize the errors in these hasty conclusions.

It is necessary at the outset to exclude false or accidental albuminuria due to admixture of the albuminous exudate, blood or lymph through the urinary tract, by examination microscopically of the sediment and also by consideration of the clinical picture. After a false or accidental albuminuria has been excluded, there are still the renal albuminurias without anatomic lesions of the kidneys which must be ruled out. These are classified by Saxe as: (1) functional albuminuria: (a) after severe muscular exertion, (b) after eating an excess of proteid food, (c) following nervous shock and other vasometer changes, (d) during labor, (e) in nervous children; (2) essential albuminuria: (a) evelic, (b) orthostatic or postural, (c) albuminuria minima (Leroche and Talamon) after infections or debilitating diseases: (3) traumatic albuminuria. slight injury to kidney, massage of kidney, movable kidney, injury to

brain, apoplexy; (4) hematogenous albuminuria, such as severe anemia, purpura, scurvy, cholemia, diabetes, leukemia, severe wasting diseases and after anesthetics: (5) nervous albuminuria, insanity, mental depression, psychoes, paralysis of certain parts of brain, epilepsy, delirium tremens; (6) albuminuria of renal stasis in conditions of passive congestion; cardial. pulmonary and hepatic diseases in the presence of mechanical pressure (stones, tumors) may occur with casts and usually a few red blood cells; (7) toxic albuminuria, irritants (cantharides turpentine), poisoning with arsenic, mercury, phosphorus, lead, antimony, alcohol, mineral acids, febrile diseases.

In many of these functional disturbances casts may be found.

Only when these are ruled out and when the urine shows albumin and casts repeatedly and there are clinical symptoms as well, can a positive diagsis of nephritis be made.

The amount of albumin varies usually with the type of disease. In acute cases it is large in amount, becoming variable as it becomes chronic and small in amount in severe cases of contracted kidney. Exceptionally, however, the amount may be large when there is no kidney lesion at all, as in passive congestion, and on the other hand, albumin may be entirely absent at times in interstitial nephritis.—From Journal Missouri State Medical Association.

Personality and Practice.

The astonishing way in which some men, who left their medical schools with seemingly the least possible acquaintance with medicine, suddenly spring into practice, usually seems unaccountable. It is like the success attained by even the less sincere and the less acquainted with medicine—the quacks. To the more earnest and thorough students, it seems puzzling that the superficial should succeed so There is one explanation that covers it all. The success is due to the peculiar personality of the practitioner. Every man has, of course, a personality. In what does this attraction for others consist? It would certainly be difficult to analyze this peculiar thing we style strong personality; it differs according to the group of persons to whom it appeals. general it consists of a set of qualities, mental, often backed by physical, which produce upon a number of people an impression of power, knowledge, kindliness, and assurance of a happy issue out of present difficulties. The number of people to whom a given personality appeals may be large or small, and one group, as a whole, may differ very widely from another in the way it is impressed. The fact is fortunate; else one personality might dominate exclusively a whole community. Personality, then, is a physical phenomenon and depends on a certain background of strength, power, and assurance. It, of course, must be backed by some mental quality, or it loses its influence in the long run, but, no matter how brilliantly skillful a surgeon or physician may be, if he lacks those general qualities which appeal to the many, he will be limited to a smaller circle than he would otherwise have reached.

A great deal of medical influence is, after all, psychic or sympathetic, and it is no wonder that one who does not possess the requisite personal adjustment should fail, while men of lesser mould, scientifically speaking, have all they can do. It is no wonder that so many cures based on suggestion flourish. This personal touch, this psychic appeal to the patient and his friends, is not to be neglected by the scientific; it is a part of the practice of medicine, and while it may be harder for the strictly candid physician to be all things to all persons, it is a part of his art, nor should it be overlooked, if he would extend his activities most widely. It is well to possess the gifts, without the demerits, of the professional artist.—Editorial in N. Y. Medical Journal, August 21, 1915.

Cancer And the Citizen's Daily Food.

It is common knowledge that a large multitude lives on improper food in New York today. We think that men of business and their employees, who must eat at restaurants at least once a day, absorb much of the poisonous element of ill cooked and preserved food; though whether the almost universal habit of eating the flesh of animals has steeped many constitutions in the unknown but ever present cancer germ, is another question; it one thing to eat adulterated meats and other foods, another to have a system that will absorb and multiply the germs that may be in them.

Take for instance, the office man who goes to the cheap restaurant. He eats hastily a soup, a dish of veal, ham, mutton, or beef, disguised by sauces or other products of culinary art. Now what does this mean? In nine cases out of ten the meat has been bought in large quantity, at wholesale, it has

been stored, it has been cooked in a great mass, and kept hot by steam at a temperature that favors the growth of disease cells, the eggs of parasites, and the development of ptomaines. Do the cancer cells lurk in this old stock, which is kept in the cauldron concealed, while the finest goods are put in the window? That danger collects in these messes we do not doubt, for if the disease of cancer is correctly envisaged, may it not have a subtle connection with a lifetime habit of eating the food of hotels and restaurants?

The variegated food that the citizen eats is not confined to the cheap restaurants and hotels. It is true that these exist to satisfy appetite rather than taste, but even in the more pretentious, which appeal to both appetite and taste, the food-bred spirit of cancer may be found. We have often had occasion to note the frequency of the disease in the class of people who have been busy in the dining rooms and cafes of great hotels. These people have cancer, we believe, in an increasing ratio. Is it not more than chance to find this incidence of the disease in the men who are fed on soppets of frequent iteration after an alcoholic drink? Certainly at last there is evidence that these habits have begun to make a bridge for the slow moving cancer germ, which perhaps passes from some elementary stage of its existence in vermin to a full develment in the meat which is eaten by hte human being. On this point such researches as those of Fraenkel and the Danish professor, Fibiger, seem to us a triumph of clever reasoning applied to experiment. Rats certainly are liable to cancer, and rats certainly eat stale meat.

This subject, carefully watched today, is teaching us a great deal. The cheap reprint and the lectures of professors have done much to spread the knowledge. Unfortunately the language of these scientific lessons is too exalted for the average mind. Science should be simpler, more specific; as regards cancer, it should decend to analyze the delusive stratagems of kitchens, to plain description of cafes where the same thing is dished up three or four times at every meal. It may turn out that serums and specifics will not do as much for the weary man of business as a homely attention to the constant menace of impure meats.-Editorial N. Y. Medical Journal, Sept. 4, 1915.

The Camp at Tobyhanna.

Dr. Joseph C. Bloodgood, lieutenant in the medical reserve corps of the army, contributes his impressions of the recent camp of instruction for officers at the army medical reserve corps at Tobyhanna, Pa., to the Military Surgeon for August, 1915. As the government furnished the location, he writes, the only expense of the officers was for uniform, transportation, and mess. The routine life under courteous discipline was healthful, the sleep-under arrangements were comfortable, the tent space was large, the hours were regular, the daily settingup exercises were valuable, the meals were admirable—everything was better managed than would have been possible in a cavilian camp. Familiarity with field, drill, and surgical routine lent a new interest to the manuals on these subjects furnished by the Government. The daily contact with officers of the National Guard and of the regular army stimulated thought and undoubtedly led to improvement in the subsequent civil practice of the physicians of the reserve. Witnessing maneuvers and gathering up the wounded stimulated latent brain centres. Doctor Bloodgood suggests that when the wounded have been gathered together in a first aid station, there should be a clinic. He recognizes that it is as essential to train physicians for military work in time of peace as it is to instruct raw recruits for the line; familiarity with army surgical work teaches economy, simplicity, and the performance of difficult things in a trying environment. The writer compliments his instructors on their high degree of efficiency as teachers and their admirable qualities as comrades. -Editorial N. Y. Medical Journal. Aug. 21, 1915.

Health Hints at Battle Creek.

The value of educating invalids along health lines is fully recognized at the Battle Creek Sanitarium where patients are taught the essentials of health renewal and retention in an unobtrusive but nevertheless effective fashion.

Daily lectures on health topics are arranged by the medical faculty and patients are invited to attend, although their presence is entirely optional.

The range of subjects is wide—including illustrated lectures on various diseases, their causes and methods of prevention, practical demonstration of healthfuls modes of exercise, lessons in health cookery, instruction for emergencies and an occasional health question box, into which patients may drop queries regarding health topics of individual interest.

These lectures, though forming only a slight part of the program arranged to relieve any possible tedium of sanitarium life are readily appreciated by the guests as well as the patients, for they are enabled to learn without conscious effort, many valuable lessons upon health and its maintenance.

BOOK REVIEW

THE CLINICS OF JOHN B. MURPHY, M. D.—At Mercy Hospital, Chicago, August, 1915.

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A rather notable contribution to this volume is the position taken by Doctor Murphy in regard to treatment of Syphilis: He says, I recently recommended Salvasan, but I have returned to my first love, which I originally suggested and used before we had "606" viz: Sodium Cacodylate. This number is very complete on a great variety of subjects. Some of them are as follows: Fracture of Patella, Compound

Fracture both Feet, Bony Tumor, Spinal Canal, Carcinoma Lower Lip, etc.

Canal, Carcinoma Lower Lip, etc.

THE MEDICAL CLINICS OF CHICAGO.

-Volume I, Number II (September, 1915). Octavo of 194 pages, 44 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year. Paper, \$8.00. Cloth, \$12.00.

Like its predecessor this volume contains a large amount of information fresh from the clinics of the best Hospitals of Chicago, and covers the field of general medicine. Abt discusses Tuberculous Meningitis at considerable length, giving especially the Permanganate Test as originally described by Kubal-Tiemann for determination of organic matter in water which has been recently applied by Doctor Mayerhofer, of Vienna, to the spinal fluid.

Some of the other contributors on various subjects are Goodkind, Hamburger, Hamill, Nix, Preble and Pusey.

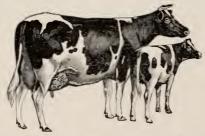
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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

The Medical College Opening— Research.

We are informed that the Medical College of the State of South Carolina at Charleston opened October 1st, with bright prospects. This news should be highly gratifying to the profession in this State. The school is making rapid strides in every phase of its development and deserves the support and encouragement of the profession generally. Beginning with the session of 1916 two years of college work will be a prerequisite to entering. The standard is now so high that a large number of applicants could not meet the requirements. We commend most heartily the steps taken by the college to prosecute research investigations in connection with the Laboratory branches usually taught. The address of Professor Lynch at the opening of the College appears in this issue and outlines clearly this new departure in the institution's activities.

Payment of Dues.

There are still quite a number of members of the Association who have failed to pay their dues this year, though some are paying up since the fall collections have begun to come in. We call especial attention to the matter because we believe that no active practitioner can afford to allow his membership to elapse for such a small amount of money as this involves. We would urge the officers of the various

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county Societies to make every effort towards reinstatement of these lapsed members during the fall and winter months, while the financial situation has to some extent cleared up. The very best way to succeed is by frequent interesting meetings of the Society and thus the members will feel that they are getting something for their money.

Free Preventive Treatment of Pellagra.

We publish a letter from Dr. H. F. Harris the distinguished Secretary of the State Board of Health of Georgia, offering free treatment to test certain scientific investigation now being carried on by him in Pellagra, or else the treatment will be furnished free to the profession under certain conditions.

We would urge all those who may be interested to write direct to Doctor Harris about the matter. It is unnecessary to remind our readers that Doctor Harris was one of the very earlist investigators of this disease in this country, and is an authority of enviable reputation.

First Aid.

We publish a letter from Doctor Bloodgood, of Johns Hopkins Hospital, and wish to emphasize the subject matter of this communication, believing that inestimable benefit will follow a prompt response on the part of the profession to Doctor Bloodgood's request. It gives us great pleasure to publish this communication, knowing full well that whatever Doctor Bloodgood undertakes is a worthy cause.

ORIGINAL ARTICLES

THE CONTROL OF HEMORRHAGE IN TONSIL ENUCLEATION.

*By J. W. Jervey, M. D., Greenville, S. C.

HERE hemorrhage is controllable in a surgical operation there is nothing more unsurgical than uncontrolled hemorrhage.

That is, or should be, an indisputable generalization. Not only should such bleeding be checked at the time of operation, but due precaution should be practiced to minimize the occurrence of delayed primary or secondary hemorrhage. These ideals can be attained in the operation for enucleation of the faucial tonsil, but candor compels me

to add, however regretfully, that observation covering a period of eighteen years has forced the conclusion that many, if not most, laryngologists permit themselves to trust to God, Nature, or luck—as they may severally interpret it—for protection against dangerous bleeding in these cases. The day is past when any legitimate excuse can be offered for such an attitude. An operating room is not a shamble, and a tonsil operation should not be permitted to convert it into such an institution.

For the proper management of hemorrhage in this location we must, in the first place, shatter one or two old ideals. To begin with, the various forms of tonsil pressure hemostats, of both ancient and modern design, should be classed as junk and treated as such.

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 22 1915.

It is the rarest of exceptions when such appliances can be profitably used. They are like shotgun prescriptions—cumbersome, unscientific and inefficient.

In the next place it should be realized that the various old styptics of legendary fame—and the new ones, too, for that matter—are of little or no value in this situation. They are false friends and, being discovered, should be accorded precisely the same consideration. Hemorrhages in this locality that may appear to have been checked by them were not real hemorrhages but false alarms, and the threatened floods would have been as readily staunched by Christian Science or a mystic incantation—in other words, and plainly speaking, they were self-limited.

When the surgeon is confronted by a severed blood vessel that does not retract and involute after the application of reasonable pressure, there remains one safe, sane, and surgical procedure to follow, and that, where it is possible to adopt it, is ligation. In the tonsillar fossa the procedure is not only possible, but with the aid of a simple little instrument which I have devised, and a little practice, it is, in most cases, easily and quickly accomplished.

There are other methods of ligation in this region ,to which, for anatomical reasons, we may still have occasional resort. One way is to grasp the bleeding vessel with long forceps and, throwing the ligature around it, draw the knot tight with the index finger of one hand in the mouth controlling one end of the ligature at or near the point of the forceps, the other end being counterdrawn by the other hand from without the mouth. As a rule this procedure is difficult and annoying to the surgeon for reasons which need not be elaborated here. Another method is a modification of this one and is performed by inserting into the tissues near the grasping forceps' point a curved needle armed with a ligature which is then tied over the vessel in the same manner as is described above. This plan has the advantage of anchoring the ligature, but, like the first, is often hard to accomplish with deftness or facility.

By the use of the Rosenheim tonsil forceps, and the tonsillar ligation forceps which I present to you herewith, I have simplified and facilitated the technique of a procedure that heretofore has been regarded as troublesome, to say the least. With the Rosenheim forceps, already armed with the ligature, the bleeding vessel is seized, and this instrument is then turned over to the control of the assistant. The operator now releases the ends of the ligature from the catches and makes the first turn of the knot. Both free ends of the ligature are then taken firmly between the thumb and forefinger of the left hand, while with the right hand my tonsillar ligation forceps are quickly and easily engaged on the strands just above the first turn of the knot which has been made. The assistant makes gentle lifting traction on his instrument. The ligation forceps, slightly opened, are now pushed downward parallel with the Rosenheim instrument and the knot slides easily and steadily ahead until it reaches its proper position. Now, while steady traction is made upon the ends of the ligature held in the left hand, the ligation forceps, with the tips at the site of ligation, are firmly opened and closed two or three times. This maneuver tightens the first turn of the knot. The ligation forceps are withdrawn and the same procedure is repeated to make the second turn completing the knot. No part of either hand has entered the mouth. Both forceps are withdrawn, the ligature ends cut off, the hemorrhage is controlled, the patient is safe from trouble with that vessel, and the surgeon's dreams can lead him to the contemplation of more cheerful visions than fountains of blood and oceans of gore—and all accomplished in less time than it takes to tell it.

I have found a rather large (No. 4) twisted silk ligature to be best suited for the purpose. Catgut is unsatisfactory and disagreeable to manipulate in the mouth. I shall demonstrate the method here to those of you who are interested.

DISCUSSION.

Dr. Henry Horlbeck, Columbia:

I am sorry I did not have the pleasure of hearing Doctor Jervey's paper. I had the pleasure of seeing his technique and I wish to congratulate him on having devised the means of controlling constant hemorrhage. In constant hemorrhage no one can realize the difficulties in picking up a bleeding artery from the tonsillar space until they try to do it, and it is very unsuccessful at times. Personally, my experience with constant hemorrhage has been very limited. The majority of cases seem to get along uneventfully, but I will certainly get some of Doctor Jervey's instruments.

OVARIAN CYSTS WITH REPORT OF CASE IN WHICH THE TUMOR WEIGHED EIGHTY-FIVE POUNDS.

*By Samuel Orr Black, A. B., M. D.

N A consideration of living pathology as it pertains to the ovaries, one is hurled into the midst of the most important organopathy found within the confines of the female pelvis. A woman in years between the Alpha and Omega of her menstrua-

tions, without ovaries, is as a boat without a sail or a ship without a rudder.

The uterus and ovaries permit menstruation, ovulation, and internal secretion and through themselves predispose to mens sana in corpore sano. The oviducts are merely conveyance tubes, the organ of Rosenmuller a vestigial structure and neither have an indispensible function. Remove the uterus, extirpate the tubes, destroy the parovarian tubules, in fact, do what one will to the lower abdominal and pelvic anatomy, conditions warranting, but preserve the ovaries, or as much thereof during the child-bearing period as possible. This is the ratio decendi of gynecological surgery when one recalls the tripod of ovarian functions.

Ovula liberation might be called the first or external discharge, and through the hypothetical secretion then claborated from the resulting Corpus Luteum, the endometrium is enriched in vascularity, thereby being prepared for menstruation, or for the reception, retention and nutrition of the fecundated ovum. Thus supposedly it is, that the second of the three functions is made possible through the performance of the first. The Corpus Luteum is indispensible to early pregnancy, since bilateral oophorectomy at this time induces abortion without fail.

Thirdly, the ovaries are known to have an internal secretion because their presence influences the growth and development of the sexual organs and the mammae prior to sexual maturity. They also have to do with the deposition of lime salts in the long bones. Their removal after sexual maturity induces atrophy of these structures, cessation of menstruation, an increased deposit of fat, and a long chain of nervous symptoms. Osborne claims that perhaps the ovaries have a

^{*}At present resident physician in the Jefferson Medical College Hospital, Philadelphia, Penn., and in the service of Dr. H. R. Black, Spartanburg, S. C.

limited action in the maintenance of vaso-motor stability. The urinary phosphates are greatly and permanently decreased after double oophorectomy (Camtals and Taruffi). Nevertheless many writers doubt the utility of castration for osteomalacia. Spermin, described by Schreiner and elaborated by Poehl, has been found in the ovaries, thyroid, prostate, testicle and other tissues, and is supposed to assist the blood in its oxidizing power. Further proof that the ovary has a secretory function is shown by the compensatory hypertrophy in the remaining organ after one has been removed. In the rabbit this increase begins within two months and at the end of four the organ has doubled its size. (Airstoff.)

Obviously the ovaries are organs of tremendous importance. Truly do they predispose to a contentment of mind and a preservation of health. This is manifest when once we see the horrible picture of an artificial menopause, surgically induced. Think of a young woman, single or married, suffering with transitory waves of heat, flushings of the face and body, loss of Il self-control, itching of an area here, anaesthesia of a part there, "lancinating pains in the lower extremities," marked constipation, in fact, a life of pain and misery, induced and damned as it were by the knife of the unscrupulous operator, himself stupendously ignorant or grossly indifferent to ovarian economy.

The products of the ovum producing tissue have a close inter-relation with the secretions of the other ductless glands. Thyroid extract has been definitely proven to accelerate the action of the ovary and vice versa. Epinephrin injections have induced definite pathologic lesions in the ovaries. Women suffering from dysmenorrhea, amenorrhea, extreme nervous-

ness and other symptoms of ovarian and pelvic perversion of functions are repeatedly made more comfortable by suitable doses of thyroid extract. Kalleday reports a case of acromegaly of ten years duration, suffering likewise with oligomenorrhea alternating with periods of amenorrhea and dysmenorrhea, all of which he attributed to hyperpituitarism and to a concomitant hypo-ovarianism. He accordingly administered ovarian extract. It cured the patient as it furnished the needed harmones, and at the same time is thought to have counteracted the excessive hypophyseal ones.

Hypertrophy of the hypophysis cerebri during pregnancy was first demonstrated by Compte in 1899. Acromegalic features characterize the condition. It has been called pregnancy acromegaly. The features spontaneously disappear after parturition.

An imperfect balance between the secretions of the ovaries on the one hand and those of the adrenal and thyroid on the other is supposed by Osborne to be a possible causative factor in the production of some few cases of Raynaud's disease in the female.

The ovaries, as all other somatic tissues, are subject to a large variety of living pathologic changes, and not least among these is the cystic involvement. The more common of these varieties are, first: the simple cyst, e. g., of a single cavity; second, multiple cysts, e. g., of several cysts all arising from a common source; thirdly, proliferating cysts, e. g., where one sac arises from the wall of another cyst; fourthly, papillomatous cysts, e. g., where wart-like excresences line the inner membrane of the cyst. A cavernous cyst results when the walls of several cysts have been obliterated by pressure. The usual type of congenital cyst is the dermoid. These have a slight tendency to become malignant.

LaPouge reports three such transformations. Cancer here is characterized by a long period of incubation, so to speak, but once developed, runs a rapid course. No case of such origin has been reported as being cured. There are over sixty cases on record.

Westermark cites two cases of ovarian cysts associated with hydatiform mole. He believes the cysts were responsible for the moles. Both cases recovered after having been operated on for torsion of the cystic ovary.

These cysts vary tremendously in size. One may visit any one of a dozen large Eastern Gynecological Clinics time and time again and it is doubtful if a cyst larger than the human head will be seen, whereas in the South, which sorry to say is still somewhat retarded in medical advancement, they may attain immense proportions. In our own institution here in Spartanburg we have had three exceedingly large ones during the past year.

The parovarian structure, a rudimentary organ, consists of from six to thirty tubules, triangularly arranged and situated between the germ-bearing organs and the two Fallopian tubes. They frequently undergo cystic transformation, but are not, strictly speaking, ovarian cysts. Just external to these, at the fimbriated portion of the tube one finds the so-called cysts or hydatid of Morgagni, which, though practically always present, rarely attains a size of any moment. Most cystoma are attached either to the ovary or the broad ligament on the affected side by a pedicle. Rarely the pedicle breaks and the tumor floats free in the abdomen. It may, especially during parturition, be extruded through the vagina, or pushed into and out by way of the rectum.

Cystic ovarian symptomatology varies with the mode of onset, rapidity of growth, size attained and complicating phenomena. Among these might be mentioned rupture of the sac. suppuration of the same, torsion of the pedicle, with or without strangulation, adhesions to the peritoneal surface, and malignant transformations. A cyst may be present for a long time and give no symptoms. It is without pain unless peritoneal or pressure symptoms develop. The wall may be cut, pinched, clamped, or sutured with no discomfort to the patient, but simple traction on the pedicle induces pain. The pain is felt along the pelvic brim and becomes more generalized as the traction is increased. Twisting of the pedicle gives pain varying in intensity with the degree of rotation. Slight twisting from time to time gives vague indefinite pains which disappear as the patient's posture changes, thereby undoing the twist. On the other hand, if the posture be changed in such a manner as to increase the degree of rotation, the pain will be intensified. Behan observes, therefore, that the presence of abdominal or pelvic pain in ovarian cysts means either a secondary change in the cyst, or the involvement of some sensitive, near-by structure, or the presence of some other condition independent of the cyst. As the mass enlarges, a diffuse, abdominal discomfort manifests itself, headache, frequently sub-occipital in type, develops, pains radiates down the thighs, neryous disturbances arise, a growth is felt to one or the other side of the uterus by recto- or vagino-abdominal palpation, edema of the lower extremities is not infrequent, urination and defecation may become impaired. Increased intra-abdominal pressure may lessen the daily output of urine; may push upwards the diaphragm, thereby impeding respiration, dislodging the heart and impairing its functions? In

many of the large cysts of some duration the diagnosis may be made from the characteristic facial expression—faces ovariana, so called—confirmed, if need be, by a paracentesis abdominalis with an examination of the obtained fluid.

The prognosis as regards life in the absence of developing complications and of inter-current or organic diseases is good. As the mass continues to increase in size, it in time seriously interferes with locomotion.

The treatment of ovarian cysts is operative pure and simple. Medicinal agents have no action whatever, as the fluid is contained within a closed sac lined by its own secreting membranc. Puncture at most is but palliative, as the fluid is being continuously formed. Furthermore, tapping is associated with the danger of rupturing a large vessel in the sac wall, of carrying infection, is productive of adhesions, and may result in the lodgement of malignant cells in the abdominal wall as the trocar is being removed. Electrolysis is no longer advocated. If the cyst be unilateral and of sufficient size to cause annoyance, in the absence of general operative contra-indications, remove the entire ovary. If there be two cysts, one from each ovary, developing during the child-bearing period, treat them more conservatively. Remove the more diseased of the two ovaries, but preserve as much as possible of the one least involved. In many cases, considerable ovarian tissue may be saved by puncturing the sac, dissecting out its walls, or curetting the same and closing the opening in the ovary. Subsequently, if the patient shows any signs of hypo-ovarianism, administer two-grain doses three times a day of ovarian or Corpus Luteum extract. Supplement its action by similar doses of the extract of the thyroid, thymus, and pituitary glands. Prescribe a bit-

ter tonic. Order daily baths, massage and forced feeding. Insist on a certain regulated amount of diurnal rest. Ten to fifteen-grain doses of strontium bromide should be given as a nervous sedative. (P. B. Bland.) Surgically, transplantation of human and animal ovaries have been attempted. These may be placed between the layers of the broad ligament or amid the tissues of the abdominal wall. Varying degrees of success follow such operations. Their failure lies chiefly in deficient vascularization. But few successful cases have been reported. Not infrequently the transplanted organ functionates for a few months, after which it slowly atrophies. If the cyst be an extremely large one, weighing fifty to a hundred pounds and containing several gallons of fluid, partially empty it by aspiration. Operate subsequently. This permits the abdominal and thoracic viscera to regain, to some extent prior to operation, their anatomic and metabolic equilibrium. Age is no contra-indication to operation. A number of women beyond seventy, and a few even beyond the age of eighty have been cured.

The microscope shows malignant changes in one out of every four or five ovarian tumors. Early operation, therefore, becomes imperative. The nature of the operation depends upon the condition found on opening the abdomen. "This dispels the darkness and reveals the light of day." Each case is a law unto itself and the surgeon must act as the exegencies necessitate, remembering, however, that conservatism is supplanting radicalism, as regards the ovaries, with the same degree of rapidity as are traumatically injured extremities now being preserved that once were sacrificed to serve the insatiate cravings of a blood-thirsty surgeon.



OVARIAN CYST.

Case Report.

Patient was admitted to the hospital July 21, 1915. She was a white woman, the wife a Carolina planter, and was fifty-seven years of age. Her family history was negative as regards cancer and tuberculosis. During child-hood she had pertussis, scalatina, and varicella. Her menses began at thirteen, recurred regularly, persisted for four days and were painless. They ceased when she was thirty-seven. She has conceived and carried to term six children, the seventh and last miscarried at the fifth month, when she was aged five and thirty.

The present trouble began two years ago, when she first noticed an enlargement of her abdomen. She ascribed it to "bloating." It progressively increased, however. During the past two months it has grown more rapidly than during any previous two. At the beginning of this time her feet and legs began to swell. Her eyelids have not puffed. Denies dyspnea. Has had a few dizzy spells. Has continued the major portion of her household duties. Physical Examination:

Patient's face, neck, and upper thorax were all thin and wasted. She appeared anemic. The general facies suggested ovarian cyst. Respiration was largely confined to the upper therax. The apex beat was seen in the third interspace at the nipple line. The upper extremities were long, thin and wasted. The muscles appeared flabby. The fingers were slender and showed a few Heberdens nodes. back was negative. The spine was not curved. The abdomen was tremendously enlarged. It bulged in the median line and overhung the pubes. Large dilated veins were seen winding their way towards the umbilicus from all parts of the abdominal wall. The splenic and hepatic borders were not palpable. The lower limbs were markedly edemic. Tortuous veins were prominent on the feet and legs, in fact, a varicose ulcer was present on the right tibial surface.

Palpation confirms the position of the apex beat. Vocal fremitus was not increased. The arm muscles were soft. The abdomen was very tense, in truth, it was drum-like. The wave of fluctuation was readily elicited.

Abdominal percussion reveals generalized flatness, with a small area of tympany in each flank. Shifting dullness could not be demonstrated. The oper border of the liver was found in the third interspace. Normally, it corresponds to the fourth.

Circumferentially, the abdomen measured at the Ensiform cartilage thirty-eight, at the umbilicus forty-nine and one-half, and at the pubes forty-five inches. From the tip of the Ensiform to the umbilicus the distance was twenty-two inches, while to the pubes from the same point the tape measured twenty-seven and one-half inches. Truly it was a tremendous abdomen. The patient weighed one hundred seventy-nine and one-half pounds.

Examination of her blood showed the normal coagulation time, but a noderately severe secondary anemia. Examination of the urine revealed a trace of albumen, a few casts, and an exceedingly low urea output.

Three days after admittance to the hospital she was catheterized and then tapped. Four and one-half gallons of fluid were removed. The abdominal wall, of course, relaxed to a certain extent and a tight binder was applied. Still the abdomen seemed markedly enlarged. This fluid was dark brown in color, of a syrupy consistency and contained a number of cholestrin crystals, many red blood cells, some epithelial cells, and a few leucocytes.

Both the Guaiac and albumen tests were strongly positive. Four hours after tapping she passed 480 c. c. of clear urine. In the first twenty-four hours she voided 1,600 c. c., the second day 3,430 c. c., the third day 2,020 c. c., at the end of which time her lower extremities were rapidly regaining their normal appearance.

Subsequently to the puncturnig process the Ensiform cartilage was found to be fixed with its tip pointing upwards and forwards from previous intra-abdominal tension. A large mass was also palpable in the left upper and a lesser one in the lower right abdominal quadrants. These were thought to be small cysts springing from the large original cyst. Shifting dullness could now be demonstrated. The urea percentage gradually increased, and the total urinary output went up day by day.

Her abdomen was opened nine days after admittance to the hospital. The sac wall was found adherent at many points to the parietal peritoneum. A large trocar was pushed into the cyst cavity and three more gallons of fluid were withdrawn. The pedicle was clamped, ligated, and divided. The sac was removed. The two masses described above were found to be smaller cysts. The left ovary and tube appeared to be perfectly normal. The abdomen was closed and the patient made an uneventful recovery.

The sac itself after all fluid had been removed weighed nine and one-half pounds. Twelve days later she was again weighed while standing, and the sac with its contents, i. e., the seven and one-half gallons of fluid that had been removed were found to have weighed approximately five and eighty pounds.

195 North Converse Street, Spartanburg, S. C.

ETHER ANAESTEHESIA.

*By William A. Boyd, M. D., Columbia, S. C.

T IS not my intention in considering the subject of Ether Anaesthesia, to inflict upon this Association a didactic lecture, even if I were able to do so—of the physiological and pharmacological properties of ether, but rather to present my own experiences and observations, as to the effect of ether upon the unfortunate person, who is called upon to inspire this very useful drug. Perhaps I can say with all truthfulness, that ether anaesthsia was really introduced in the surgical arena at Columbia by me. Again I might say that as the result of my own "Ether Intuition," I have been able to determine the presence or absence of a ruptured, gangrenous appendix, a pus appendix, and other so-called "acute abdominal emergencies" without any previous knowledge of the symptomatology of the given case; this statement will be supported by many of the very large number of skilful surgeons that Columbia claims. And now I would assure you that I am not trying to advertise my own ability as an anaesthetist—although I have long ago realized, that while the lay press, as an advertising medium is closed to the Ethical Physician, the Medical Associations and their journals are a fruitful source of advertisement, together with the "Ethical Pamphlet or Reprint—because I have given up the role of an anaesthetist, and confine my endeavors to the practice of medicine and surgery. At this time I would call your attention, to the fact, that because a man has received a diploma from a medical school, he is not necessarily fit to administer an

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

anaesthetic. Even ether anaesthesia is not safe in the hands of the inexperienced physician, to say nothing of the nurse. For a long time, and even now by some, it was argued that ether anaesthesia was not practical in the South, because of the high temperatures; that in my experience is not true, because rarely, does the temperature of the operating room vary, even in the wintry season; if the higher temperature increases the volatility of ether, the only objection that can be raised in regard to its use, would be the increased quantity used, and remember that the increased quantity is a relative one, it is not taken by the patient, but is evaporated from the mask, and so after all it is merely a question of dollars and cents on the one hand, and the safety of the patient on the other.

An experience of several years in Columbia where the mercury soars to high heights in the summer months has taught me that with care and attention upon the part of the anaesthetist, there should be no great increase in the amount of ether used in any given case.

Of the contra-indications so often spoken of in the use of ether, I would say, that from my own experience the only real contra-indications are, Active Pulmonary lesions, Bronchitis, advanced Atheroma, with high blood pressure, and operations upon the upper half of the body where the actual cautery is used (and even in the last conditions, with care there should be no trouble), in all the other conditions that we read of, I have administered this drug, time and time again with no ill effects.

Ether Pneumonia has no terros for me. Perhaps you might say, even as others have said that the Anaesthetist does not see his patient afterwards, and consequently does not see the Pneumonia, but in my case that is not true, because I have given ether to hundreds of patients in Columbia where I have followed them in their convalescence, and the same is true in regard to hundreds of cases in the hospitals where I served as an Interne, and to this day, I have yet to see my first case of ether Pneumonia.

However, I do not wish you to believe that there is no danger of such a condition, resulting from ether anaesthesia, but rather that if the drug is administered properly, the patient's mouth and throat thoroughly cleansed before starting the anaesthesia, the chest, sides and back bathed with alcohol after the anaesthetic has been discontinued, and finally a little common sense used in the handling of the patient, subsequent to the operation, there should be no reason for the development of a Pneumonia, and I do not believe such a condition will be your misfortune. Your ether pneumonia is generally the result of faulty anaesthetization, with incomplete abolition of the reflexes, so that particles of saliva, or perhaps even food, are inspired and subsequently starts up a Pneumonia.

Of the other conditions that are so often written about, as the result of ether anaesthesia, perhaps a nephritis is the most important—remember that the kidneys share largely in the excretion of most anaesthetics, and are called upon to excrete a larger quantity of ether, because of the increased quantity of ether used, so the kidney's work will depend upon the skill of the anaesthetist to a large extent, and to my mind it should be no great trouble for the trained anaesthetist to eliminate this danger. Time and time again I have seen ether administered, or rather poured upon the mask, because the anaesthetist has been more interested in the work of the surgeon than

in his own work, so that the patient begins to recover his reflexes, and almost his consciousness, and then the poor unfortunate is drenched in ether, so that he can be placed "hors de combat," as quickly as possible, to enable the accomplished surgeon to continue to demonstrate to the onlooking "country doctors," his skill as an operator. I have always thought, and even now, am of the same opinion, that the most important person in the operation, aside from the patient, is the anaesthetist, and because of that very fact, the anaesthetist should give his entire time to his own work, and look not upon the carving of others.

Remember, gentlemen, that while ether is indeed in my opinion, far safer as a genral anaesthetic for any procedure that takes time for its performance, than any other, and although it is a definite cardiac stimulant and does not lower the blood pressure unless given in overdose, nevertheless, it must be given with brains and not alone by your hands.

I shall not enter into any discussion as to the relative advantage of any particular method of administering ether, because while the method I have used in so many cases has given me uniform success, with but little discomfort to the patient, in the hands of even a far more skilled anaesthetist might not give him such results; and so I would offer this advice, "Follow out your own method that has given you your best results, remembering that any drug, which removes from an individual his consciousness and his ability to protect himself, is a dangerous one, and knowing that to be true, give the patient your undivided attention, watch and care for him even as you would have others do for you."

And now in closing let me offer just a few suggestions, and then perhaps even you will fall asleep, only to awaken, with but a faint recollection of this rambling paper.

Prepare your patient for all anaesthetics; have their mouth cleansed. their teeth brushed, or in the event of a plate, have it removed before the mouth is cleansed, give a hypodermatic injection of morphine and atropin, in the amount your judgment deems best, at least twenty minutes before starting your anaesthesia; have your patient placed in a comfortable position on the table, gain his or her confidence as best you can, and then start your anaesthetic, remembering that you are not trying for any speed limit, but for a safe, steady and successful Anaesthesia.

THE PLACE OF THE LABORATORY BRANCH IN MEDICAL EDUCATION AND PRACTICE.

*By Kenneth M. Lynch, M. D., Charleston, S. C.

T IS with a particular sense of safety and assuredness that I extend a welcome to the students of the Medical College of the State of South Carolina on behalf of the Faculty. The beginning of the year 1915-16 is our first under favorable conditions, and we feel that we are not only on a sure foundation but are on the high road toward a proper aim. With your co-operation, we are prepared to see the future physicians of South Carolina serving the people, who are giving their support in your education, in better capacity than ever before.

At this stage in the development of medical things, and of this school in particular, I feel that you could be

^{*}Professor of Pathology and Research Medicine, Medical College of the State of South Carolina, Charleston, S. C.

^{*}Address delivered at the opening exercises of the Medical College of South Carolina, Oct. 1, 1915.

addressed on no more appropriate subject than that of the part which the laboratory branch should play in your education and future work, and also in the service of the medical profession to the public in general.

At least those of you who have been in touch with medical matters of recent years have, no doubt, been impressed, and properly so, with the rapid strides in progress which the profession has made and is making. While paying due respect to these advances, I intend to risk unpopularity by calling attention to certain fundamentals wherein the ruts have been by no means all forsaken and in which we are still far from the goal. This concerns you in your schooling and in your future practice, and it concerns no less the public which we serve.

I refer in the first place to the past, and to an unbelievable extent preserved, system of medical teaching by means of extensive lecture courses. While some medical lectures are beautiful, depending on the oratorical abilities of the speaker, the majority are dry and sleep-inducing, and all are at best but poor means of instruction in anything which has a practical application. I do not mean to contend that we may dispense with lectures in medical teaching for they are necessary in some form to explain the principles on which we work; but I do wish to deplore the waste of valuable time which occurs to a certain extent in all of our schools, and to say that there are few lectures which cannot be illustrated to advantage in some form.

Take, for instance, the course in anatomy, that subject pre-eminently suited under present conditions to be taught by practical methods, and we find that it still suffers from the lecture system. I use this subject merely as an example, I might have used others more or less as well. In fact, I might

diverge from the discussion of the laboratory branches to apply the same criticism, only more severely in some instances, to the so-called clinical courses.

I say so-called because it is unfortunate that there should be the distinct terms laboratory and clinical medicine, that there should be the sharp division between the medical laboratory and the ward. The laboratory teacher, excluded from contact with hospital patients, becomes naturally more or less narrow and impracticable and is so accused by the clinician, who in his turn fails to practice those scientific principles of which he talks to his students. Until the laboratory teacher becomes also a clinician, and until the clinician puts into practice in his classes those laboratory methods of diagnosis, there will always be division, and the student will fail to be impressed with the necessity of carrying laboratory methods into his practice.

But to go back to our indictment of the lecture system as still overburdensome and expensive. This, I believe, is being gradually remedied, both by individual aspiration on the part of the instructor and under pressure from certain advising and classifying bodies. Yet we and they are often deceived by catalog and other reports, and still we find that students are being told, for example, of the action of the Tubercle Bacillus and are having embryonal development explained to them in lectures instead of being shown these things and of working with them.

After having a principle explained to him, the student should be shown its application and should be required to apply it. For example, after having the action of digitalis explained to him, he should see it for himself by experimental administration and further by study of its effect on the diseased heart of a living case. After having

the fundamentals of edema explained to him, he should learn for himself the course of the process taking place, by laboratory study, by experimental production, and by study of a ward case, all in the same connection.

These principles of teaching as it should be might be illustrated by examples from the various departments. In most courses the first requisites, the explanation and exhibition of specimens, are carried out to a fair extent. In some, the third, the experimental method is in force, and in regard to this too much praise cannot be given to the properly conducted course. I believe thoroughly in making the student an investigator, not necessarily , a research worker in the usual sense of the term, but one who will continue his investigation in a practical way in his future work.

I do not mean the merciless mutilation and destruction of helpless animals, but by use of painless methods and care, which by the way these same animals would not get elsewhere, to learn those things which can be gotten in no other way. In answer to those who object to such use of the lower animals, I would ask "at how many guinea pigs or turtles do you value your children or your parents?" It is a deplorable fact that medical education and science have been and are severely handicapped by a society formed by women who wear the wings of slaughtered birds on their hats and who insist on remaining ignorant of the workings of experimental medicine.

I wish to call your attention to the application of the final auxiliary, the demonstration of living examples in direct connection with laboratory teaching, which we purpose to initiate in the course of Pathology in this school. Were it not for the use of the term, already, but in a faulty sense, I

would say that we are starting a real course in Clinical Pathology, but until we can release this term from what is really Laboratory Diagnosis, we are barred from our rights. I do not mean that our present course in Clinical Pathology is wrong in anything except name.

This departure from custom we hope is, with us at least, the beginning of the bridge from laboratory to clinical medicine. We aim not to usurp the function of the clinical teacher in any part not to place unnecessary strain on the sick but to put in practice our Pathology, to see an example of gangrene while we are studying that process. We aim also to keep the Pathologist in touch with human Pathological Physiology in order that he may really teach Pathology and not merely Etiology and Morbid Anatomy. The course is, to a certain extent, an experiment, but is assuredly in the line of sensible progress and we aim it to answer a crying need.

Coming to the second phase of our subject, that of the place in your future work of your knowledge and practice of laboratory methods, I can name no more unfortunate condition than the attitude of a large part of the profession, especially in parts remote from medical centers where in reason it should be the reverse, and consequently passed on to that prospective member of the profession, the student, toward the laboratory branch.

The usual student considers this branch as something to be gotten through with as a preliminary to the study of medicine. This attitude, which is the most disagreeable stumbling block in the way of the teacher, and which results in a vicious cycyle between practitioner and student, is the footprint of the old system. It will have to be fought until the passage of time wipes it out, until the

fruits of the old system have disappeared.

I can give no better argument in favor of non-divorcement of certain laboratory branches from practical hospital work and no more sure forecast of the future of the student who will not learn to apply his principles, than to cite, as examples, our greatest diagnosticians and internists and surgeons, who above all else are pathologists, and many of whom have been or are teachers of this branch, men who apply the scientific principles which they teach. I do not mean to say that they are not anatomists, chemists, or physiologists, for these branches are prerequisites.

I can make no stronger recommendation than that you lay your foundation well. Learn the principles of medicine which you will find in the laboratory courses, not by memorizing as so many do to their sorrow, but by sensible study and practical application. "Learn to do by doing," is the slogan of the best medical teaching. Keep in touch with these branches instead of trying to get them behind you on your way toward a diploma.

By so doing, I promise you what you wish. You will be a blessing instead of a curse to the profession. He who has seen the anatomy heart, who has seen the physiology of the circulation, the pathology of cardiac diseases and the applied therapeutics, experimentally and in the ward, toward such contions, will know how to manage such cases and will be the one in demand. He who produces experimental tuberculosis in the guinea pig is learning nothing which was not known before, but nevertheless is laying a foundation for a career as an investigating physician, one who wants to know what and why and who endeavors to find out. He is the man who will diagnose the cases of those who gazed out the window at class demonstration and who let the other man do the test or perform the autopsy.

The creation of the investigating physician is but a unit in the sum of that other function of the medical school in which the nature of things decrees that the laboratory man shall play the guiding role. I speak of the investigation of unsolved problems.

While it may seem that ninety-nine per cent of research work is valueless or of uncertain value, who can really separate the wheat from the chaff? Who can say that it was not all necessary in order that any visible progress be made? Certain it is that a part of our mission is to work toward a more perfect condition by endeavoring to clear up the obscure.

It is given to one man in a thousand to finish a work and to receive the reward, and yet it isn't as if he were the only one capable. His success is the sum total of the efforts of the nine hundred and ninety-nine as well. Had he not completed the work some one else would have. Whatever any man does is made possible by his predecessors. Naturally, then, it falls to the lot of many earnest and capable workers to go unrecognized, and too much must not be expected in a human life time.

That research work is one of the functions of a medical school needs no argument in support. To perform this service we must be equipped and we must have time, as haphazard investigation leads to no results. I know of no field in which this part may be played to better advantage than in this, and it is with much satisfaction that we know we are to be supported in this work.

Passing to the last phase of our subject, that of our duty to the public, I wish to speak not of the practice of medicine nor of the administration of public health measures, but of the newer service, the education of the people in medical matters, particularly in the line of those measures directed toward the prevention of disease and insurance of a better public health.

How often have you heard the practitioner say, "I must give my patients medicine whether they need it or not or they will go to another doctor." How well we know of the swindles and the harm perpetrated on the public by quack doctors and patent medicines. How many cancers we see which have been concealed, through ignorance, until they are past remedial measures. How many adoring mothers have killed their children with their own tubercle bacilli, their own typhoid bacilli, through ignorance of ways to prevent it. How many of our cooks have brought us deadly diseases because of conditions under which we allow them to live. How many innocent children have been sacrificed because their parents, in ignorance, wish them to get through with the diseases of childhood. or because some politician health officer would rather risk the charge of murder hereafter than the loss of a supporter here.

I cite these things in order that your attention may be called to the necessity of educating the people against these crimes and mistakes.

The people of South Carolina and of most other States have given liberally of their means to their medical schools that their lives may be safer. Their money is being returned to them many fold in the better equipment of their doctors to fight their diseases, but we intend going them one better in showing them, as best we can, how to prevent those diseases.

The question, of course, arises as to who is to do this. The practitioner is debarred to a large extent, except from individual instruction, because of so-called medical ethics. Were he to appear before the public in such a role, how soon would the cry of "advertising" go up. Naturally then it falls mainly on the non-practicing laboratory man.

This idea is not original with us nor even with the medical profession. It is practiced in various ways by extension courses of many schools and universities, but in medical matters is yet in its infancy and all is to be done.

Too much credit cannot be given to our Board of Trustees and to our Dean for extending this service to our people. The commitment of the governing bodies of this school to such progressive measures is an assurance of its future.

Medical science is in its early infancy, but with such beginning as we are seeing, the law of expectation versus realization should be reversed; and we are looking toward the future doctor as serving the people more as a preventer of disease than as a prescription writer.

MILK IN THE DIET OF INFANTS.

*By D. L. Smith, M. D., Spartanburg, S. C.

THE infant requires five elements of food for its sustenance: proteid, carbohydrates, fats, mineral salts, and water. Owing, however, to the undeveloped state of its organs of assimilation it cannot avail itself of any wide range of diet. By reason of its active growth and more active metabolism, it requires food of special form and nutritives in special proportion to each other. Milks are the only class of food which fulfil these conditions, an animal product designed by nature for that purpose.

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

Milk alone contains all the elements necessary to sustain life, and one quart of milk is equal in food value to eight eggs. Its cost of production is as cheap as any other food of the same value.

For many years we have been able to estimate most accurately the diet of adults by the Calorimetric system, but it has only been in recent years that the question has demanded our attention for infants. We are indebted to O. Heubner, of Berlin, who was the first of a series of investigators to ascertain the facts which go along way toward solving the problem of infant feeding. With the Caloric method we are today in a position to determine more exactly the amount of food required for each child in order to nourish it and to obtain normal growth; and also to determine if it is getting too much in time to avert the disastrous consequences. And since the figures are at our command it becomes our duty to use them whenever we have an infant under our care for feeding.

The next and most important problem which should demand our attention is the source of our supply of milk, as to its purity and quality. The index of the quality of milk furnished a city is reflected in its mortality rate of its infant population. history of medicine furnishes us over 500 epidemics of acute infectious diseases directly traceable to the milk supply and in a recent issue of the A. M. A. Journal there is an excellent report of an epidemic of Streptococci tonsilitis directly traceable to the milk supply. In Public Health Bulletin, No. 56, there is a report which shows by the census of 1900 that Charleston had the highest death rate of infants of any other city in the United States, 419.5 deaths per 1,000 births. We feel that Charleston can now make a better showing in her infant mortality. I am willing to wager that the honored members from that city will attest that it is probably due to her improved milk supply.

Last summer, Spartanburg, S. C., had an epidemic of typhoid fever which was traced to the milk supply resulting in the loss of several of our useful citizens, but the most striking thing was that it affected so many more of our infants and children than the adults, and this was because they consumed more milk. Each community is beginning to be educated to the fact that milk is a fruitful source of our ills, and is demanding pure milk. The bacteriological content of milk has been accepted as the most practical index of the care used in the production and transportation of it. The standard used in most cities is a maximum of 100,000 bacteria per cubic centimeter. They also have a chemical standard to insure as constant a composition of its nutritive value as possible.

No milk should be used for infants and children unless the cow has been tuberculin tested and inspected for other infectious diseases. To get pure milk is a question and the education of the public to demand it seems one of the ways. Farmers and dealers of milk should be made to realize that they are being helped instead of harassed in the effort to produce pure clean milk.

The ideal milk to use is certified milk. The use of the term certified milk is limited to milk produced at dairies subject to inspection and the milk to frequent bacteriological and chemical analyses. The cows producing such milk should be properly fed and watered, and should be free from tuberculosis as well as any other communicable disease whatsoever. They must be housed in clean, sanitary and properly ventilated stables of sanitary

construction and which must be kept clean.

All persons who come in contact with the milk must not harbor the germs of typhoid, tuberculosis or other infectious diseases. The milk must be drawn under all precautions necessary to avoid infection and be immediately cooled, packed in sterile bottles and kept constantly at or below 50 degrees Farheinheit. It should contain not more than 10,000 bacteria per c. c., and not delivered over twelve hours old. Such milk should be certified by a commission consisting of a veterinarian, a chemist and a bacteriologist. Asheville is the only city in the South that now has certified milk and this milk is furnished by the Biltmore estate. A two year average of its milk by the report of the Asheville Board of Health Commission shows 2,000 bacteria per c. c. and 4.8 butter fat. It is one of Ashevile's greatest advertisements, and a surprising thing is that the Commission inspects the dairy and its products without any remuneration.

Where milk is not either certified or inspected it should be pasteurized. Pasteurization is used at all of the large infant hospitals as a routine and most authorities agree it does not have any ill effects upon the infant. Straus, of New York, I understand has a standing offer of \$10,000 to any one who can prove that pasteurized milk is not as good as raw milk for feeding infants. The most striking example of reduction of infant mortality due to pasteurization occurred in the infant hospital at Randall's Island, where the mortality in 1897 for raw milk was 44.36, while under the same conditions in every other respect, except pasteurization, it was 19.8 the next year.

In studying the question I find there is a considerable variance in the opinion as to the most suitable breed of cattle from which to get our milk for

infants. No less an authority than John Lovett Morse, of Boston, comes out strongly in favor of the Holstein, and in a personal letter from him a few days ago he is still of the following opinion: "The breed of cows is carefully chosen with reference to the suitability of their milk for infant feeding and also to their natural disposition and digestion. Holsteins and Avrshires have shown themselves most adaptable in these respects. They are, especially the Holstein, of even temperament and good disposition and not very liable to tuberculosis. Their milk contains a much larger proportion of stable fats, and a much smaller proportion of volatile glycerides than the milk of the Jersey and Guernseys. An additional advantage is that the fat corpuscles in the Holstein's milk are smaller than that of the Jerseys, and when the emulsion is broken down it is much more easily restored." The Holstein people give lots of facts about their milk which seem reasonable, but the most important are included in the above statement by Doctor Morse. The reason why we cannot successfully feed our babies on whole milk, as the Europeans do, is because the lower fat content cows are more common there, while in America, the Jersey, of high fat per cent is more common. Holstein milk contains 3 per cent fat, and the Jersey milk contains 5 per cent fat. Authorities all seem to agree now that the proteids are not the "Casus Belli" but the fats. Protein milk and skimmed milk are fed to our infants with diarrhea, instead of the old poison "egg albumin and peptonoids, with very happiest of results.

In visiting hospitals for children in New York and Baltimore, I noticed it is a routine to feed diarrhea patients on the protein milk which is free from fat and contains no sugar; but in the out-door clinics skimmed milk is used entirely as the protein milk requires too much skill to prepare for that class of patients. At one of the milk stations of the Board of Health in New York, the well babies, after four months of age, were fed on whole milk of 3 per cent fat, with no bad results, but the very reverse. I have noticed in many babies very hard curds due to a saponification of the fats. The Gail Borden people have prepared by the suggestion of Doctor Kerley an evaporated milk free from sugars and fats for feeding infants convalescing from diarrhea.

In conclusion let me emphasize these facts: Fresh cow's milk should be our main stay in artificially fed babies and should be fed freely until five years old, and that the milk should be pure and should not contain too high a per cent of fat, and our Boards of Health be more rigid in their inspection of dairies and their products.

DISCUSSION.

Dr. F. A. Coward, Columbia:

Mr. Chairman, with reference to the paper of Doctor Smith, we must always bear in mind that in dealing with the question of cow's milk for the feeding of children, we have two things to consider. The first is the chemical and nutritive quality of the milk; the other is the ability or possibility of the milk being able to communicate some infectious disease to the child. So far as the chemical constituents go, that has to be determined in each particular case, just as is the case with breast milk. But in the case of the possibility of bacterial contamination it is just as well to stress the point that we have two chief dangers: One is from the colon bacilli and the other is from the streptococcus. Fortunately it is comparatively easy to detect these two organisms, and they should be tested for by public health laboratories. So far as the chemical nutritive value of any one specimen of breast milk or cow's milk goes, that is not a public matter, but it is our opinion that we should look for, and should be expected, in public health laboratories, to test and look for the presence of the streptococcus, which, in the experience of the public health departments of Baltimore, Chicago, and other cities, has led to widespread epidemics of scarlet fever and sore throat; and whatever scarlet fever is, certainly the streptococcus has some association with it. The milk from the infected udder of the cow is a danger, and the colon bacillus is certainly a menace and we should be expected to look for those two things. The public health laboratory has nothing to do with the amount of fat or proteids in the milk and I do not think it would be possible to set a standard for any chemical content of milk which would suit every baby. That is up to the physician; but we should look for these other things, and they are readily detected; and I think our cities, in our milk control, should be expected to do the same thing. Of course specimens of milk, sent by mail, are not fit specimens for bacteriological investigation. We can send water by mail, because it is not a culture medium for bacteria. If the water is kept cool and shipped under ideal conditions, the same bacteria will possibly be there for twenty-four hours, as when the sample was taken. Milk is a culture medium for ordinary bacteria that gain access to it. Particularly is this true when the milk is collected under such conditions as usually obtain and surround the collection of such specimens.

REPORT OF STONE IN WHARTON'S DUCT.

By Robert Thrift Ferguson, M. D., Gaffney, S. C.

THE occurrence of stones in the ducts of the salivary glands is so infrequent that I desire to report a case which recently occurred in my own practice. The fact that they occur so seldom is probably the cause why they are so often overlooked until the painful process of inflammation and virulent infection takes place and they are voluntarily expelled upon opening an abscess as large as a hen's egg in the cheek or under the tongue.

The present case gave a history of having had several attacks of acute

inflammation with considerable swelling underneath the tongue which subsided in a few days, although there always remained a tender spot under the When I was called in there was so much swelling and oedema of the floor of the mouth, chin, tongue and submaxiliary tissues that it was impossible on account of the great tenderness present to make a satisfactory examination. In 24 hours the tongue was partially protruded and the patient unable to talk or swallow. first day the whole floor of the mouth presented a board-like hardness, but after applying hot compresses for several hours a soft spot was located to the left of the fraenum of the tongue and a free incision was made removing the stone as shown below:

The swelling subsided rapidly and the following day the patient was able



STONE REMOVED FROM WHARTON'S DUCT. (Actual size.)

to resume his duties. The stone was imbedded in Wharton's duct and from symptoms and appearances as well as the history given by the patient, it had been in the process of formation a number of years. This is the first case of salivary stone that has come under my observation, and knowing that they occur very rarely I have felt justified in making this report.

BANTI'S DISEASE—REPORT OF AN OPERATIVE CASE.

By B. B. Steedly, M. D., Spartanburg, S. C.

Y REASON for reporting this case is not that the operation differed from the usual procedure in these cases, but because of the very rapid return to normal conditions

and the continued good condition of the patient at the end of four years, notwithstanding that at operation the liver showed well marked cirrhotic changes. This feature of the case was a cause of considerable anxiety on my part. Would the hepatic cirrhosis increase and later produce symptoms of its own, or, by doing a splenectomy thereby removing the cause, would the development of fibrous tissue be arrested and the liver continue to perform all of its functions unhampered? Happily the last alternative has been realized.

The patient is female, age thirty-eight, married. Admitted to the hospital July 14, 1911, weight at that time 120. Blood examinations as follows: Erythrocytes 3,840,000 per cmm., Hb. 50 per cent, leucocytes 9,240 per cmm. Her flesh and strength had reduced very much from her usual state of health. The splenic enlargement was quite marked, the anterior border reaching beyond the umbilicus.

I did a splenectomy through a left rectus incision. Convalescence was uneventful. She was feeling much better when she left the hospital three weeks later and in a few months felt as well as ever in her life.

A blood examination Nov. 19, 1914, showed the reds 4,949,000 per cmm., Hb. 85 per cent, whites 13,500 per cmm. Her weight then was 165, a gain of 45 pounds. She looked and felt perfectly well, and so continues at the present time.

This is a brief account of the essential features of this case and, as stated, its interest centers in the fact that the restoration to health of this patient furnishes additional evidence that operation should not be withheld in advanced cases of splenic anaemia even after well marked changes in the liver have supervened.

TUBERCULAR MENINGITIS.

*By R. M. Politzer, M. D., Charleston, S. C.

UBERCULAR MENINGITIS or Basilar Meningitis is a productive inflammation of the Cerebral Pia due to the Tubercle Bacillus. It was first recognized by Robert Whytt,⁹ in 1768. In 1833 Gerhard,¹ of Philadelphia, published an excellent description of this disease under cerebral affections of children and gave the post mortem findings in thirty-two cases. This even today makes excellent reading. Since then aside from the recording of many cases, but two important contributions have been made. I refer to Koch's discovery of the tubercle bacillus and the introduction of lumbar puncture by Quincke in 1891.

This disease though by no means common is not so rare as is usually considered. Between the years of 1905 and 1908,² 8,950 children were admitted to the great Ormond Street Hospital in London. Of these

17 had suppurative meningitis

49 had cerebro-spinal meningitis and 174 had tubercular meningitis.

That means that one out of every 51 children had tubercular meningitis, and that 72 per cent of all the meningitides admitted were tubercular. Kerley³ found 184 cases of tubercular meningitis out of a total mortality of 413 cases from tuberculosis or 45 per cent. Still found 114 cases of tubercular meningitis out of a total mortality of 283 cases from tuberculosis or 48 per cent. So from these statistics if permitted to generalize we might conclude that in London and New York at least almost half of the deaths from tuberculosis in children are due to this

entity. Therefore, in pediatric practice it is quite worthy of attention.

Much has been written as to its etiology, and but few points are now in dispute. The causative factor is known. Trauma may possibly predispose, though it is doubtful. Heredity undoubtedly plays a part though a minor role. Far more important is the infection from association (even though of short duration) with a tuberculous person, which infection may be by the respiratory or digestive tract. And of even greater importance is the drinking of milk from tuberculous cows. Here let me cite Park and Williams:⁴

"The transmission of tubercle bacilli by the milk of cows has been abundantly proved. Different observers have found tubercle bacilli in from 10 to 30 per cent samples of unheated milk. Cervical and abdominal tuberculosis are the most frequent types of infection. About 10 per cent of all deaths caused by tuberculosis in children under five years is due to bovine infection."

Herbert M. King,⁵ of Loomis Sanatorium, writes that there is no longer any doubt that the bovine virus is pathogenic for man, particularly in early life, and when the milk is not beyond suspicion some method of sterilization is imperative.

E. O. Jordan,⁶ in his book on General Bacteriology, states that "bovine infection in children under five is a serious matter and is responsible for from 6 to 10 per cent of deaths from tuberculosis." This point is far too often overlooked. Age is of striking significance. The most usual time of its occurrence being between one and five years. At times it attacks between six months and one year and very rarely after five, but occasionally after eight years.

Usually and perhaps always tuber-

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

cular meningitis is either secondary to tuberculosis elsewhere in the body or a part of a general miliary tuberculosis. The lesions as viewed in the dead house are surprisingly slight. I have seen a typical rapidly fatal case which showed but a few whitish dots or tubercles scattered about the region of the optic commissure on the pia, and a few more tubercles running up the sylvian fissure with faint fibrinous plaques in the same region. This as a rule is the pathologic picture. In addition there is usually an accumulation of clear or turbid fluid in the lateral ventricles. That is, there is present an internal hydrocephalus. Often the other lesions are not visible to the eye.

In now progressing to the symptomatology I find myself at a loss. The disease is so varied that one cannot describe clearly its clinical course. No disease begins and pursues a more variable course than tubercular meningitis. Its usual duration is very close to three weeks. Rarely, however, it is more furious and the little patient dies in one week. Cases have been reported that lasted six weeks. Judging from what I have seen, three weeks is a very good estimate.

Generally the first symptom is some slight change in the disposition or atfection of the child. This may be only a certain fretfulness or an obsession. Intense headache comes on, next vomiting ensues. This is often not severe but is generally repeated after a few days interval. The patient about this time is apt to become drowsy or apathetic. He shuns the light and wants to be let alone. There is nothing characteristic then about the pulse, temperature or respiration. This period is called the prodromal stage. It usually lasts about ten days. Morse has well said that the symptoms at this time may be almost anything. Gradually the second or irritative or spastic

period is entered on. The child lies on its side with legs drawn up, knees and hips flexed. The eyes may be half shut or fixed in a stare. The neck is stiff but not retracted as in acute cerebro-spinal meningitis. At this period we may have convulsions but sometimes they occur during the last few days of life. The pulse, as a rule, is slow, ranging from 60 to 40. This, however, cannot be relied on in patients to the extent text books would indicate. The temperature is often normal or about 100. Frequently, however, just before death it reaches 106-107. From time to time without provocation is heard the hydrocephalic cry. This is a sudden high pitched scream. The reflexes are apt to be greatly increased and Kernig's and Babinski's sign present. This condition persists for about a week and then we come to the final period or stage of coma or flaccid paralysis. Before this, as a rule, even early in the second stage or prior to it ocular paralysis such as ptosis or strabismus will have been noticed. Now monoplegias or hemiplegias occur. The abdomen becomes scaphoid. There is rectal and vesical incontinence and all reflexes are lost. The child then becomes comatose. This final period is usually but three or four days. I have purposely omitted many minor signs and symptoms to curtail this paper. Of course it must be understood that the three periods of the disease cannot be rigidly established. It has been well said that "the middle and third stage of tuberculous meningitis is so obvious that a fool cannot err therein, but in its first so deceptive that the most sagacious may fail to recognize it."

The diagnosis in general may be considered easy, provided the observer has seen a previous case and understands the diagnostic requirements. Naturally the first point is to realize or sus-

peet that the case is one of meningitis. And further when meningitis develops as an apparently primary disease it is practically always either cerebro-spinal or tuberculous. Early it may be wrongly considered as (1) teething; (2) worms; (3) indigestion (4) typhoid; (5) polio encephalitis (6) meningismus and (7) cerebro-spinal meningitis.

For the sake of brevity I may say whenever meningitis is suspected, do a lumbar puncture. This is a harmless procedure and throws much light on the condition. By it we can readily separate cerebro-spinal meningitis from the tuberculous and suppurative forms and also exclude meningismus.

To anticipate being asked how often the tubercle bacillus is found in the spinal fluid I offer the following: Osler says they are not seen in more than 10 per cent of routine examinations. Eisenschitz¹⁰ states that they are recognized in 75 per cent on close examination, while Morse claims that they are found in 90 per cent of cases where the examination is careful. Kerley says in practically all cases, though it may be necessary to make more than one examination. Koplik found them in thirteen out of fourteen cases. For an absolute diagnosis aside from avimal inoculation, or the post mortem, the finding of the bacillus is essential, but in general it may be said that whenever we obtain a clear fluid free from other bacteria (generally under plus pressure and in excess) which has an increased cell count, the majority being lymphocytes and a fibrin clot forming after twelve to twenty-four hours, we may know that we have a case of tuberculous meningitis. The fibrin clot is a delicate cobwebby whitish mass which forms at the bottom of the test tube containing spinal fluid. In this net work the tubercle bacillus is

usually sought to more advantage than by centrifugation. I shall not take up your time detailing the technique of lumbar puncture because it is too important to be dismissed in a few words and probably well known to all of you. While discussing the diagnosis it may not be amiss to introduce some figures from which I shall draw some conclusions.

In the City of Charleston we have our share of tuberculosis and also of children. Therefore we should reasonably expect to find our proper quota from this disease. During the years 1910-11-12-1311 we had 6,303 deaths of which ninety-six were due to convlusions, five to encephalitis, twenty-five to cerebro-spinal meningitis and but three to tubercular meningitis. That is equivalent to one death from it out of 2,101 deaths, or a death rate of 1-20 of 1 per cent. While from convulsions and encephalitis over 100 died or a death rate of 1 per cent or one out of 603. Possibly the disease is rare here, but I am rather of the opinion that it has escaped our attention, often because we have not had a fair chance. As an example of that I may state that one day last May I as called in hurriedly to see a negro baby of about a year. It was having convulsions and had been sick for about two weeks. It was impossible to make a diagnosis then and there. I returned in a few hours expecting to do a lumbar puncture but the end had come. Of course no autopsy was allowed. Perhaps that was a case of tubercular meningitiswho knows? And so frequently it is not the doctor's fault, but undoubtedly it often is.

To support my claim that we here see very few cases of tuberculosis of the meninges, let me cite the following figures for 1912, culled from tables at the Charleston Health Office: 12

In Boston in 1912 there were 11,643 deaths, 118 being from tubercular meningitis, that is one out of 99.

In New York there were 73,266 deaths: 602 being from tubercular meningitis, or one out of 91.

In Charleston there were 1,659 deaths of which one was from tuber-cular meningitis or one out of 1,659.

Just think of the contrast, one out of 99 and 91 against one out of 1,659. Again I ask are we to be congratulated as a community or is this a reflection on our diagnostic acumen?

But to continue, in New York City in 1912, one out of eight deaths were from pulmonary tuberculosis. In Boston, one out of eleven, and in Charleston, one out of twelve, almost the same percent of tuberculosis here as in Boston. In St. Louis out of the total deaths of 10,634, fifty-nine were from tubercular meningitis, which is one out of 180. In Richmond there were sixteen deaths from tubercular meniningitis out of a total of 2,715, or one out of 163, and finally in Atlanta, out of 2,999 deaths eight were from tubercular meningitis, or one out of 375. These figures prove my statements.

Passing next to the prognosis we find that Still, Holt, Morse and Kerley tell us that in their hundreds of cases they have never seen one recover. But evidently the day of miracles is not yet passed, for Archanzelsky, of Moscow, has seen one recover and collected fifty others in the literature. Most authors, however, are "doubting Thomases," as to the correctness of the diagnosis in these cases. In short, never hold out any hope for one who has tubercular meningitis.

Treatment can be summed up in a few words. Relieve suffering and feed. This is often best done by repeated lumbar punctures. Drugs and food are given on general principles.

Formerly iodoform ointment was used extensively. It is of no avail. Lumbar puncture was expected to cure. It only relieves. So we must admit that we are powerless to cure this malady. And yet by education we can probably lessen its occurrence. I refer to but two methods.

Rigorously keep away all infants and children from all cases of active tuberculosis. Boil or pasteurize all bovine milk given them, as it is almost impossible to be sure that it is free from the tubercle bacillus. Dennett¹³ has proven that boiled milk is not harmful, and scurvy can easily be prevented.

In a way I feel that I owe you an apology for having taken up your time and said so little, but if I cause any of you to be a little more definite as regards diagnosis in all children showing meningeal irritation, I shall feel amply rewarded.

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- 6. E. O. Jordan—General Bacteriology—Tuberculosis.
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- 8. Morse—Case Histories in Pediatrics.
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- 10. Lewis—German Vade Mecum— Examination of Spinal Fluid.
- 11. Charleston Health Reports 1910-11-12-13.

- 12. U. S. Mortality Statistics, 1912. R. H. Dennett—Journal of American Medical Association, Dec. 5, 1914 (Boiled Milk).
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- 15. Sachs—Nervous Diseases οŤ Children.

SOCIETY REPORTATION OF THE PORTATION OF

The Sumter County Medical Association held its first meeting last night, since the summer intermission, at the office of Dr. F. R. Wilson, with quite a good number of the members present. There was no set program for the evening but an informal discussion of interesting clinical cases that had occurred in the practice of the several members since the last meeting in June.

At the conclusion of the meeting, the members adjourned to the Dixie Cafe where supper was served and a pleasant social hour was spent.

The next meeting will be held the first Thursday in November.

S. C. Baker.

October 8, 1915.

ABBEVILLE.

The Abbeville County Society held an important and interesting rally meeting on the evening of September 30th, at the Eureka Hotel, Abbeville, S. C. About thirty members and visitors were present, and a wide range of scientific subjects was discussed. Among them the following: Syphilis, was one of the subjects which brought forth a liberal discussion by nearly all the members present. The modern methods of treatment were gone into, but more especially the methods of diagnosis. Several of the members elaborated the latter in a

very interesting manner. A peculiar type of Diarrhoea, which had been prevailing in the city of Abbeville and surrounding country for some months was considered without any definite conclusion as to its exact nature and cause.

Dr. J. Adams Hayne, Secretary of the State Board of Health, gave a most excellent resume of the workings of the State Board of Health Laboratories, especially of the preparation of typhoid bacterin. Doctor Hayne stated that after having visited some of the largest laboratories in the world located in the East, he came back feeling assured that the work done in our laboratories compared very favorably with that done in other places.

The members showed great interest in Doctor Hayne's remarks, and asked many questions about the work.

Dr. E. A. Hines, Secretary of the State Medical Association, and Superintendent of the Anderson County Hospital, presented the subject of the Hospital for the Small Community. Doctor Hines presented a number of plans of hospitals, some of which could be built and equipped for \$5,000.00, and suggested that Abbeville was a suitable location for such an institution. Doctor Hines further stated that he believed that practically every County Medical Society in the State should take up the matter of county hospitals, and thus bring these benevolent institutions within the reach of the people of the State.

Dr. T. L. W. Bailey, of Clinton, Councilor of the District, was cordially received and made a ringing speech along the lines of organization and professional fraternity. Doctor Bailey evidently intends to leave no stone unturned in making his administration successful. Doctors McFadden and Hennies, of Chester, added much to the program entering into the spirit of the occasion discussing most of the subjects proposed.

An elegant banquet was served and presided over by the President, Dr. C. C. Gambrell, who is also the Mayor of the city of Abbeville. The meeting will go down in the history of the Society as being one of the very best held in a long while.

The Fourth District.

The Fourth District Medical Association met in the City Hall at Easley, September 28, at 10 A. M. There were about seventy-five physicians present from the six counties composing the district. The meeting lasted for four hours and rarely do we see such intense interest manifested as was evident on this occasion. The Fourth District, as usual, held a most successful meeting, being one of the largest ful meeting, being societies in the State. The program chosen. societies in the State. The program

had been prepared with special care, an outline of which is given below. Not the least delightful part of the program was the dinner by the Pickens County Medical Society in honor of the visitors.

Program.

Address of Welcome—J. L. Valley, President of Pickens County Medical Society.

Response—J. S. Stribling, President Fourth District Medical Society.

Problems in Infant Feeding—D. L. Smith, Spartanburg.

Diagnosis and Treatment of Gastric Ulcer—J. W. Parker, Greenville.

Modern Teaching on Physiology of Digestion—J. R. Young, Anderson.

Modern Problems in the Patient-Carl Voeghtlin, Dietician Pellagra Hospital, Spartanburg.

Acidosis-J. B. Townsend, Anderson.

Constipation—W. A. Cateechee.

Diet in Health—J. L. Valley, Pick-

Three Unusual and Interesting Cases -E. W. Carpenter, Greenville.

Dr. C. N. Wyatt, of Easley, was elected President; Dr. J. R. Young, of Anderson, Secretary; and Greenville

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AMERICAN FIRST-AID CONFER-ENCE.

> Office of Secretary. 904 North Charles Street. Baltimore.

Dear Doctor:

The enclosed copy of my letter to the Secretary of the State Medical Society is submitted to your consideraate attention, with other circulars relating to the First-Aid movement recently inaugurated.

We would appreciate it very much if you would give the resolution and question sheet space in your Journal with notice that the Secretary of the First-Aid Conference will welcome answers to the questions from any surgeons of experience in the treatment

of accidental injuries, and that these answers will receive full consideration in the deliberations of the Board on First-Aid Standardization.

Should you see your way clear to notice the First-Aid movement editorially and to favorably comment on its purposes and ultimate ends, it would, of course, aid us very materially in the work undertaken.

Our request of you is justified by the consideration that in order to obtain the prevailing opinion of the medical profession on a disputed matter and to crystalize this opinion into a safe guide for action, the co-operation of the medical press is indispensable.

If you give this matter notice in your Journal, I would be glad to have a copy for our files.

Very sincerely yours,

Joseph C. Bloodgood,

Secretary.

American First-Aid Conference—First Meeting, Washington, D. C., August 23 and 24, 1915.

The following resolution was passed at this meeting: That the questions noted below be sent to the Chief Surgeons of Railroads, Mines and Manufacturies, first, to be answered by them; second, that a copy of these questions be sent by the Chief Surgeons to their Associate Surgeons.

The object of these questions is to attempt to get the opinion and experience of a number of surgeons and to formulate them for publication.

Please answer each question on a separate sheet of paper and sign your name to each sheet:

- 1. What has been your experience with the most available first-aid package and dressing for small and large wounds.
- 2. What has been your experience with the immediate employment of an-

tiseptics in accidental wounds; what antiseptic have you used, in what strength, and how applied? Have you employed tincture of iodine; if so, how and what have been the results?

- 3. What in your experience has been the most efficient and most readily applied method of fixation for injuries of the (a) upper and (b) the lower extremity?
- 4. Have you considered the construction of a stretcher, which, in addition to serving as a means of transportation of injured, will have appliances for the fixation of the upper and lower extremity, somewhat along the lines of a Bradford splint, or the Gihon naval splint?
- 5. Please state your views on some liquid ointment dressing which would be available for first aid in large wounds and burns with the object of preventing the usual dry-gauze dressing adhering to the wound and rendering subsequent dressings painless.

These questions have been sent to all the members of the Association of Railroad Chief Surgeons of America, and a few other Civil and Military Surgeons.

Please give these questions your personal attention, first, and mail your answers to the Secretary, at the same time writing him and giving him the number of copies of these question sheets desired to mail to your Associate Surgeons.

Very sincerely yours, Joseph C. Bloodgood, Secretary. 904 N. Charles St., Baltimore, Md.

Resolution Adopted by the American First-Aid Conference, Washington, D. C., August 24th, 1915.

Your Resolution Committee has the honor to report that it has carefully considered the resolution which was committed to it and has redrafted it as follows:

Whereas, There is a great lack of uniformity in first-aid methods; in first-aid packages, and in other firstaid equipment; and in first-aid instruction, and

Whereas, Many of the aims of first aid are defeated thereby and needless suffering and expense incurred,

Therefore, Be it Resolved:

That this Conference recommends to the President of the United States that he appoint a "Board on First-Aid Standardization," said Board to consist of one officer each from the Medical Corps of the U.S. Army, the Medical Corps of the U.S. Navy, the U.S. Public Health Service, the American National Red Cross, the American Medical Association, the American Surgical Association and the Association of Railway Chief Surgeons of America: this Board to deliberate carefully on first-aid methods, packages, equipment and instruction and to recommend a standard for each to a subsequent session of this Conference to be called by the Permanent Chairman; the creation and maintenance of the said Board to be without expense to the United States.

Your Committee further reports that it has personally consulted the Assistand Solicitor of the Treasury and he has given the opinion that there is no legal objection to the resolution or its purpose.

The Committee has also personally consulted the Secretary to the President and he has assured your Committee that it is his personal opinion that the President will take favorable action in the premises.

Committee on Resolutions:

W. C. Rucker, Asst. Surgeon General, U. S. P. H. S.

Major Robert U. Patterson, M. C. U.

S. A., Representing the American National Red Cross.

W. L. Estes, Chairman Comm. on Fractures, Amer. Surg. Association.

THE PREVENTIVE TREATMENT OF PELLAGRA BY INJECTIONS OF BAD MAIZE EXTRACTS.

To the Editor of The Journal of the South Carolina Medical Association, Seneca, S. C.:

While there can be no doubt that rest, good and assimilable food, and change of climate are of the utmost importance both in preventing recurrences of acute pellagrous attacks, and in warding off the graver symptoms in patients who have only suffered from the milder forms of the disease, and while such measures will in all probability continue to be our sheet-anchor in the treatment of such cases, much interest attaches to certain results which have been recently obtained in the prevention of the classical pellagrous onsets by means of injections of extracts of bad maize.

As is well-known, it was long ago discovered by Devoto, and his assistant Ascoli, that pellagrins exhibit a hypersensibility to extracts of bad maize, and that the conclusions of these writers were fully confirmed by the later investigations of Volpino, Mariani, Bordoni, Alpago-Novello, Cesa-Bianchi, Rondoni, and others. Somewhat later it occurred to Volpino that a state of resistance might be established by repeated injections of such extracts, and he, in conjunction with Bordoni, reported the results of his earlier investigations in the latter part of the year 1913. These observers began their work by repeatedly injecting rabbits intravenously with extracts of bad maize. Ten days after discontinuing this treatment some of the blood serum of these animals was

mixed with solutions of what they have called "pellagrogenina" of varying strengths, and the mixture administered subcutaneously to guinea pigs that had been sensitized to maize products, and it was found that the animals suffered no ill effects as a result of the injections, and it was therefore, felt that antitoxic bodies were evidently contained in the serum used.

Following the foregoing experiments these investigators treated three patients in the fall of 1913 with injections of gradually increasing strengths of extracts of bad maize with what appeared to be excellent results, and they have just reported a continuation of the work along these lines which was done in 1914, and make mention of the fact that the well-known pellagrologist Camurri has informed them by letter that he has also seen striking effects from the treatment.

Still more recently Finato and F. Novello have reported the results of the use of the extract in fourteen cases, and have expressed themselves as having a high opinion of the efficacy of the treatment, in many cases: in only one of the fourteen persons treated was there even any doubt as to the beneficial effects secured.

Inasmuch as it takes some little time to carry out this plan of treatment, it is considered best for the patients to take it during the fall or winter.

In some instances the medicament has consisted only of concentrated solutions of extracts of bad maize, and, what seems better, in other cases "pellagrogenina" has been employed. Whatever solution of bad maize is used, the utmost care should be exerted in seeing that the solution is properly sterile; in some cases the investigators in testing for hypersensibility have sterilized the solutions by heat, but on the whole it would appear to be much better to filter the extracts

through a Berkefeld or Chamberlin germ-proof filter, as only in this way would it be possible to preserve all of the component parts of the bad maize.

Gradually increasing strengths of the solutions are employed, the patient being carefully watched in order to avoid the occurrence of pronounced reactions, which, in case the solutions used are too strong, much resemble those obtained by tuberculin in patients with tuberculosis.

Ordinarily the injections are given every other day, and it requires about two months to complete the treatment, this being continued in gradually increasing doses until reactions no longer occur, even after the use of very strong solutions.

The results obtained by the well-known pellagrologists whose names have already appeared in this letter are such as to warrant a thorough investigation of this method of treatment. While it is certainly impossible ever to remove the extensive pathologic alterations that are always present in pellagrins, there is no question that we may by proper measures ward off the acuter manifestaions in many instances and should it be found that this treatment is of any decided value, it would certainly be a God-send to the unfortunate victims of this disease.

In order that the matter may be tested as early as possible, I have made preparations to treat a limited number of patients, free of charge, during the coming fall and winter, and will be glad to hear from physicians who feel interested. In order that this work may be of real scientific value, it is highly important that most thorough and complete histories of all patients should be obtained, and that a record be kept of the symptoms produced, particularly in the earlier stages, by the injections. For this reason I would greatly prefer that patients desiring

this treatment should come to Atlanta and stay for at least a time in the earliest stages of the treatment, after which they may, if they prefer, go home and get their family physician to continue the injections. In cases where this is out of the question, and where the medical attendant will agree to furnish all of the data desired, with the subsequent results, I will be glad to furnish the extract, in properly sterilized, sealed glass tubes, free of

all cost. Under such circumstances, however, it will be necessary for the medical attendant to write or wire the result of each injection, as the dose has to be gauged accordingly.

I would be very glad to hear from any physician who has patients upon whom he would like to try this treatment.

H. F. Harris.

Atlanta, Ga.

CURRENT LITERATURE

The Teaching Functions of Boards of Health.

In recent years there has been a great increase of State and city health department pamphlets intended for the information of the public. It is encouraging to note that President-emeritus Eliot of Harvard University is a strong advocate of such work. He says that there is nobody to give Americans the sort of instruction they need about tuberculosis, alcoholism, venereal diseases, prostitution, and diet, and to give it with authority, except the medical profession and the public health officials (American Journal of Public Health or Social Hygiene, September, 1915). This statement is well substantiated by the fact that tuberculosis continues to spread—thus showing that public opinion has not forced adequate control of this disease, although its infectiousness has been known and widely taught for a generation past. In regard to alcoholism it has not been brought home to the entire population that the habitual use and above all the abuse of alcoholic beverages reduces the productive efficiency of the community. There is great room for improvement over the present ignorant way of dealing with habitual drunkards.

Public neglect and silence about venereal diseases are no longer justifiable, since recent discoveries have made the diagnosis more certain, and the treatment more effective. Interest should be quite as strong in these as in any other communicable diseases. The proper handlig of venereal diseases by the public naturally leads to the question of how the public should treat prostitution. "Recent inquiries have demonstrated that more than half of the prostitutes in a modern city, or a rural community, are likely to be feeble-minded women." The public needs to be aroused on this subject. The remedies usually suggested, namely, license, regulation, and segregation, have failed in Europe and in Asia. It is essential that true information on this subject be given to the public.

"The ignorance of the American people concerning individual, family, and public hygiene is vast; and its consequences are deeply to be deplored.

* * * The ignorance of the American people concerning the enjoyable, healthful, and productive use of foods

is profound; and this ignorance results in immense waste, reduced industrial efficiency, unnecessary ill-health, and shortened life." The ordinary American eats too much protein. It is a proper function of health authorities to instruct the public on the nutritive values of various foods as well as to protect it against unsafe food.

President Eliot has rightly called attention to the need of more well-informed zeal on the part of all persons, if the power of preventive medicine to promote the public welfare is to be fully utilized.—Ed. Medical Record, October, 1915.

"October, The Physician's Month For Business.

Physicians have the reputation of being indifferent financiers, and be it said to their credit there is less commercialism among medical men than any other class of men, excepting perhaps ministers.

There is a difference, however, between commercialism and the conduct of a profession on business principles. The doctor who practices medicine solely for the dollars for which he sells his services, and who does not consider his obligation to keep abreast with medical progress, thus giving his patrons his skill in diagnosis and treatment, is unworthy of the noble profession of medicine. It is unfortunately true, however, that many physicians are so devoted to the study of scientific medicine that they neglect the business side and while they give the most skillful attention to their patients, they allow themselves to be imposed upon by their patrons, and they and their families suffer financial distress because of the failure to realize that the practice of medicine can and should be conducted on strictly business principles.

October is the month when every merchant, every banker and every lawver in the South is engaged in collecting his bills that have not been paid monthly. In the cotton district October is the time when most business of every kind is being transacted, but as a rule the doctor does not collect his bills until December and January. The average man pays all his other bills and if there is anything left, or if it is convenient, then pays the doctor. Indeed some people feel as one man said to his physician, "Doctor, as soon as I get my debts paid I am going to pay you something."

Physicians should on the first day of October of each year mail an itemized statement to each of their patrons. This should be followed by a personal interview with the request of settlement early in October. If not possible for the doctor himself to see his patrons who owe him, it is a good business plan to employ a collector who has the tact and judgment not to offend when presenting a bill. On the 15th of October the second statement should be mailed to those who have not responded to the first, with the request for settlement before November 1st. If this does not bring results it should be followed by another personal interview by the physician, so that during the month of October he has collected a part of his accounts and he will know when to expect the balance. On the last day of November and each other month of the year he should present his bills, but in October he should make an extra effort to collect the accounts due him.

The services rendered by a physician to the sick and suffering are of the greatest possible value and the public should be educated to pay adequate fees for medical and surgical attention. The best way for the public to learn this lesson is for the physician to

conduct his affairs on business principles. He should have the consciousness of having given every patient the best service possible, he should charge adequate fees, he should present his bills as regularly as the druggist or the merchant, and he should insist upon the prompt settlement of his accounts. Then will the laity appreciate more highly the services of the practitioners of medicine and the physician himself will suffer less from

"The worst of all our earthly ills— Inability to meet our monthly bills"
—Editorial Southern Medical Journal, October.

Controlling Cancer in England.

Portsmouth was the municipality in England to undertake a public educational campaign for the control of cancer and it would appear that the measures adopted in 1913 are already taking effect. The annual report of the Medical Officer of Health, Dr. A. Mearns Fraser, for the year 1914, which has just been received, states that there were only 197 deaths from cancer in Portsmouth last year as compared with 230 in 1913. This decrease, which occurs in the face of an increase of population, is hailed with satisfaction by the Portsmouth sanitary authorities as justifying their efforts to reduce the cancer death rate by persuading persons who are attacked with this disease to avoid delay and to seek treatment before it is too late for more than palliative measures. Doctor Fraser reports that from statements made to him by local medical men the publication of circulars and newspaper articles by the Health Department has been instrumental in inducing a number of persons suffering from early operable cancer to secure treatment, the result of which it is hoped will be permanent.

When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer in Portsmouth was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16 per 10,000. In that year the total number of deaths was only 34 less than were caused by tuberculosis. While admitting that the increase in the recorded cancer death rate might have been caused in part by improved methods of diagnosis, the Health Committee of the Portsmouth Town Council nevertheless believed that the present number of deaths was unnecessarily large, and they felt it incumbent to adopt whatever measures might lessen the ravages of the disease. The initiative came from Dr. Charles P. Childe, senior surgeon of the Royal Portsmouth Hospital and a member of the Health Committee of the Town Council. As early as 1906 Doctor Childe in his book "The Control of the Scourge" had given to the public the benefit of his extended experience with cancer. At his suggestion the Portsmouth authorities in 1913 began a campaign of public education under the official auspices of the Health Department. The methods adopted included the monthly publication in the local newspapers of articles regarding cancer and the printing and distribution of a Health Department circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The Health Department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by

far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule because patients feared operation, but because they were ignorant that they were suffering from anything serious until they began to suffer pain.

The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages when it can nearly always be successfully removed by competent surgery.

—American Society for Control of Cancer.

BOOK REVIEW

THE TREATMENT OF FRACTURES.—

With notes upon a few common Dislocations. By Charles Locke Scudder, M. D., Surgoen to the Massachusetts General Hospital; Associate in Surgery at the Harvard Medical School; Fellow American Surgical Association; Member of the American Urological Association, and of the American Society of Clinical Surgery Eighth Edition, Revised, with 1057 Illustrations. Philadelphia and London: W. B. Saunders Company, 1915.

The new eighth edition of the Treatment of Fractures by Charles L. Scudder contains enough new material to warrant the new edition. Fractures of the Floor of the Acetabulum, of the Greater Tuberosity of the Humerus; Old Fractures of the Patilla, the operative treatment of old fractures of the leg near the ankle, are some of the notable additions found in this edition.

Probably the most valuable addition is the whole of Chapter XVI on the "Operative Treatment of Fractures." The indications and the contra-indications for operative treatment are outlined. The statement "Operative unnecessary" well suggests the conservatism of the experienced operator.

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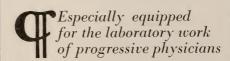
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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

The Public Health Service Discovers Cause and Cure of Pellagra.

The following communication has been received for publication:

Announcement was made at the Treasury Department today (November 12, 1915), that as a result of continued research and experiments of the Public Health Service, both the cause and the cure of pellagra have been discovered, and that the spread of this dread malady, which has been increasing in the United States at a terrific rate during the past few years, may now be checked and eventually eradicated. Assistant Secretary Newton, in charge of the Public Health Service, expressed great interest in the discovery and regards it as one of the most important achievements of medical science in recent years.

Pellagra has been increasing alarmingly throughout the United States during the last eight years, and it is estimated that 75,000 cases of the disease will have occurred in the United States in 1915, and of this number at least 7,500 will have died before the end of the year. In many sections only tuberculosis and pneumonia exceed it as a cause of death.

The final epoch-making experiment of the Public Health Service was carried out at the farm of the Mississippi State penitentiary, about eight miles east of Jackson, Miss., and together with the previous work of the Service completes the chain in the prevention and cure of the disease. The work at the Misissippi farm has been in charge of Surgeon Joseph Goldberger and Assistant Surgeon G. A. Wheeler, of the United States Public Health Service.

The farm consists of 3,200 acres, in the center of which is the convict camp. The final experiment was undertaken for the purpose of testing the possibility of producing pellagra in healthy human white adult males, by a restricted, one-sided, mainly carbohydrate (cereal) diet. Of eleven convicts who volunteered for this experiment, six developed a typical dermatitis and mild nervous gastro-intestinal symptoms.

Experts, including Dr. E. H. Galloway, the Secretary of the Mississippi State Board of Health; Dr. Nolan Stewart, formerly Superintendent of the Mississippi State Hospital for the Insane at Jackson; Dr. Marcus Hause, Professor of Dermatology, Medical College of the University of Tennessee, Memphis, Tenn., and Dr. Martin R. Engman, Professor of Dermatology in the Washington Medical School, St. Louis, Mo., declare that the disease which was produced was true pellagra.

Prior to the commencement of these experiments no history could be found of the occurrence of pellagra on the penitentiary farm. On this farm are 75 or 80 convicts. Governor Earl Brewer offered to pardon twelve of the convicts who would volunteer for the experiment. They were assured that they would receive proper care throughout the experiment, and treatment should it be necessary. The diet given was bountiful and more than sufficient to sustain life. It differed from that given the other convicts merely in the absence of meats, milk, eggs, beans, peas, and similar proteid foods. In every other particular the convicts selected for the experiment were treated exactly as were the remaining convicts. They had the same routine work and discipline, the same periods of recreation and the same water to drink. Their quarters were better than those of the other convicts.

The diet given them consisted of biscuits, fried mush, grits and brown gravy, syrup, corn bread, cabbage, sweet potatoes, rice, collards and coffee with sugar. All components of the dietary were of the best quality and were properly cooked. As a preliminary, and to determine if the convicts were afflicted with any other disease, they were kept under observation from February 4th to April 9th, two and a half months, on which date the one-sided diet was begun.

Although the occurrence of nervous symptoms and gastro-intestinal disturbances was noted early, it was not until September 12th, or about five months after the beginning of the restricted diet, that the skin symptoms so characteristic of pellagra began to develop. These symptoms are considered as typical, every precaution being taken to make sure that they were not caused by any other disease. The convicts upon whom the experiment was being made, as well as twenty other convicts who were selected as controls, were kept under continuous medical surveilance. No cases of pellagra developed in camp excepting among those men who were on the restricted diet. The experimenters have, therefore, drawn the conclusion that pellagra has been caused in at least six of the eleven volunteers as a result of the one-sided diet on which they subsisted.

On the basis of this discovery, the States of Mississippi, Louisiana, and Florida have laid their propaganda through their respective boards of health for the eradication of the disease.

Doctor Babcock on the Cause and Cure of Pellagra.

Following the announcement by the Public Health Service of the discovery of the cause and cure of Pellagra, "The State" interviewed Doctor Bab-

cock, of Columbia, Secretary of the National Pellagra Association.

Doctor Babcock's comments were published in the Sunday edition, November 14th, and in part were as follows: So far as the pellagra problem is concerned there is absolutely nothing new in the reports sent out from Washington under seal of the governmental authority. The records show that even the Mississippi experiments upon convicts have been previously made. To prove this contention Doctor Bobcock quotes Marie's book, published by The State in 1910.

Doctor Babcock further says that such observations point clearly to the dietary origin of pellagra and that the reports from the Public Health Service is merely confirmatory of the earlier Italian records. The physicians of Southren Europe having studied pellagra for a century and a half—and especially along dietetic lines.

Doctor Babcock refers to the Italian Pellagra Commission of Inquiry, in 1879, having advised meat and wine to be added to the dietary of the peasant to ameliorate their condition. In other words we gather from this interview that Doctor Babcock believes the government is endeavoring to put an old truth in a new light.

At any rate the intense light of publicity now being turned on the dietary problems of the South is bound to produce good results. Few will deny that there is room for improvement, not only in the homes of the poor, but often in the homes of the well-to-do there is a woeful lack of knowledge as to the proper methods of preparing the food or providing a sufficient variety.

Dr. Robt. Wilson, Jr., President of the Southern Medical Association.

The elevation of Dr. Robt. Wilson,

Jr., of Charleston, S. C., to the Presidency of the Southern Medical Association will be gratifying news to the profession of this State. No physician in South Carolina stands higher in the estimation of the profession. In executive ability Doctor Wilson has few superiors in this section. He was the first president of the South Carolina Medical Association after the reorganization in 1904, and was the first editor of The Journal in 1905, thus becoming identified with the constructive work of the Association so successfully carried on until the present time. After the reorganization of the State Board of Health Doctor Wilson was elected Chairman, a position he has held with marked ability for about nine years. The State Board of Health during this period has made an enviable record on account of its scientific advancement and enlarged service to the people of the State. Doctor Wilson was first vice-president of the American Medical Association and presided over the general session in part at the St. Louis meeting about six years ago. These and numerous other honors have strewn Doctor Wilson's professional pathway but perhaps none will stand out more conspicuously in the years to come or bear richer fruit than his efforts in behalf of the elevation of the standards of medical education in South Carolina and the South. As Dean of the Medical College of the State of South Carolina. Doctor Wilson and his coworkers have entered upon a great work. Southern Medical Association in magnitude and strength is second only to the American Medical Association. Its new president has the training in Association affairs, the executive ability, the professional attainments and the wisdom to lead this highly progressive organization into yet broader fields of development and usefulness.

ORIGINAL ARTICLES

SIMPLIFIED ANO-RECTAL SUR-GERY AND ANO-RECTAL CON-STIPATION (STASIS).

*By Samuel Goodwin Gant, M. D., LL.D., New York.

Part I.

Simplified Ano-Rectal Surgery. Examination.

C OME physician's continue to base their diagnosis, usually "piles," upon the finding of blood upon the shirt, or patient's statement that he has a pain about the rectum. There is no excuse, however, for not diagnosing ano-rectal affections today, because they can be directly inspected through the proctoscope and sigmoidoscope, the character of the feces can be accurately determined by chemic, microscopic and macroscopic examination and their extent and connection with neighboring organs can be defined by digital exploration and bimanual palpation. Improved diagnostic technic, largely brought about through proctologists, has also been of great assistance in clearing up the etiology and pathology of many obscure recto-colonic diseases.

Preparation of Patient.—The common practice of surgeons purging patients and deluging their colons the night before and prior to operation, courts annoyance and infection, since it insures that the field of operation will be bathed with fluid feces, which de-

lays the work, contaminates the wound, soils the dressings, and makes the patient uncomfortable subsequently.

For fistula, hemorrhoidal, fissure, polypoidal, and other minor operations but a few moments are required to prepare the patient, which is done by having him inject a glassful of soapsuds into the rectum to bring away the solid feces, after which the mucosa is mopped over with peroxide of hydrogen or other antiseptic, a procedure which forestalls the annoyances referred to. Where the bowel is to be amputated or resected for rectal procidentia, stricture, tuberculosis, or malignant disease, the patient is kept in the hospital for three or four days and the gastro-intestinal tract is first thoroughly cleansed by catharsis and colonic ichthyol 1 per cent irrigations, and is then tied up with an opiate or a strong astringent which insures a dry field of operation.

The parts are never shaved, except where sutures are used, and primary union is anticipated because the hair stubs cause the patient great annoyance.

Anesthesia.—Local anesthesia is dependable and indicated in about 80 per cent of all rectal operations, but is contraindicated in complicated cases where the surgeon does not know what is required before the operation is begun.

General or Spinal anesthesia is necessary for very extensive operations. Many drugs have been employed, but none has brought about more complete local anesthesia than a ½ per cent eucaine solution, which anesthetizes the part in a few seconds without inducing toxic manifestations.

^{*}Professor Diseases of the Colon, Sigmoid, Flexure, Rectum, and Anus. Post-Graduate Medical School and Hospital, New York City.

^{*}Read by title before the South Carolina Medical Association at Greenwood, S. C., April 23, 1915.

The writer has successfully operated upon several thousand rectal patients under eucaine or sterile water anesthesia, and in comparing them would say that the preliminary injection pain is less after the former than after the latter, but that post-operative pain and bleeding follow eucaine very much more frequently than water anesthesia.

Quinine and urea solutions take longer, but produce an anesthesia which lasts during and for many hours following the operation. These solutions prevent temporary post-operative pain, but this advantage is counterbalanced by the sloughing that occasionally occurs and retarded healing of the wound which frequently follows their employment.

The writer does not employ adrenaline in combination with any local anesthetic, for it first causes contraction and later relaxation of the tissues, and he prefers an immediate hemorrhage if it is to occur, so that it can be properly controlled.

Post-Operative Treatment.—General surgeons are divided as to their method of controlling the stools after rectal operations. Many purge the patient, liquefy the feces, and keep him busy and miserable through his frequent visits to the toilet, while others pursue an opposite course, administer an opiate and tie up the bowel for several days, procedures to be condemned because the former insures continuous irritation and favors infection through constant soaking of the wound with fluid feces and the latter leads to excruciating pain and tearing open of the wound when the accumulated, dried, and nodular feces are finally evacuated. The writer keeps his patients practically on a normal diet, does not order a laxative unless the stools show a tendency toward hardness, when he prescribes mineral oil, a fruit or other laxative, in small doses, to soften but not to liquefy the feces, because then at one siting the semisolid fecal matter is evacuated without causing defacatory pain or traumatizing the wound.

Proctologists have recently simplified the treatment of lesions and wounds in the lower rectum and thereby greatly minimized the patient's suf-The practice of universally cauterizing wounds no longer obtains, and they are drained and not packed, pernicious features often responsible for unhealed sores and fecal incontinence. In cleansing the wound, the swab and cotton moistened in water or an antiseptic solution has been substituted for copious wound irrigation, which leaves the rectum filled with the solution, to dribble out, soil the dress. ings, and make the patient miserable. When healing is tardy it can be satisfactorily stimulated by leaving a gauze pledget moistened in a solution of silver nitrate 6 per cent, ichthyol 10 per cent, or balsam of Peru 20 per cent, in the wound, but where the tissues are irritable and rebel against stimulation. methylene blue 10 per cent is usually effective. Pain from topical applications can be slightly minimized by eucaine or cocaine 10 per cent applications, but in extremely sensitive individuals all suffering can be prevented by injecting a 1/8 per cent eucaine solution beneath the lesion to be treated.

Hemorrhoids.—The surgical treatment of hemorrhoids is always satisfactory, and the operation can be performed under local anesthesia induced by sterile water or one eight of 1 per cent eucaine solution, except when there exists some other complication. Local anesthesia should not be employed when hemorrhoids are associated with other and more serious rectal affections needing operative interference.

Pruritis Ani.—Ball's operation for

pruritis ani, which has for its object the severing of nerves from their connection with the skin, which is an elaborate procedure and leaves extensive wounds requiring weeks to heal when infection occurs, the writer has modified so that it can now be quickly performed under local anesthesia and the patient need not remain in the hospital more than a day or two.

External Thrombotic Hemorrhoids are anesthetized by injecting a sufficient amount of eucaine to cause the pile to turn white; it is then transfixed with a sharp-pointed curved bistoury, slit open, the clot turned out, and the wound drained to prevent refilling of the tumor. The subsequent dressings consist in cleansing the parts and reinserting the gauze until the wound is healed.

External Cutaneous Hemorrhoids are quickly removed with knife or scissors after they have been injected with a eucaine solution. Anesthesia is absolute and follows within twenty seconds following the injection. After the excision of cutaneous piles the wound may be closed with catgut sutures or permitted to heal by granulation, the latter method being preferable, because it is accompanied by less pain and is not likely to be followed by infection.

Many surgical procedures have been suggested for the relief and cure of internal hemorrhoids. Some simple and effective, while others are elaborate, unsatisfactory, and often followed by unpleasant sequelae. Named in the order of their popularity, these procedures are the ligature, clamp and cautery and excision operations and the injection method.

Ligature Operation.—Of hemorrhoidal operations, the ligature is the oldest, most generally used, reliable, is rarely followed or accompanied by hemorrhage or complications, and the

results are very satisfactory. The technic of this operation is very simple and can be carried out under local or general anesthesia. Except when there is some special reason for administering gas or ether, I perform the operation under sterile water or eucaine (1₈ of 1 per cent) anesthesia. hemorrhoids are brought into view by means of a small enema or suction pump, having the patient strain, everting the anus, tilting the fenestrated speculum as it is withdrawn, or by the insertion of several cotton tampons which are withdrawn simultaneously, bringing the hemorrhoids with them.

The pile is then injected with water or a eucaine solution until white, which indicates complete anesthesia. The next step in the operation consists in drawing the tumor downward and severing the cutaneous nerves at the muco-cutaneous junction with scissors. A fine but strong linen ligature is placed in the incision and the hemorrhoid is ligated and excised, leaving a sufficient stump to prevent slipping of the ligature and bleeding.

The remaining tumors are in turn treated in the same manner, and the operation completed by gently pushing the ligated stumps above the sphineter, as the patient draws the parts upward. A thick wedge-shaped gauze pressure-pad is then placed over the anus and held in place by a strong T-binder to arrest and prevent a hemorrhage.

When piles are high at times it becomes necessary to use a long needle and inject them through the opening in the speculum, after which they are seized and brought downward into the field of operation. It requires a greater amount of skill to do a radical operation for hemorrhoids under local anesthesia than the inexperienced would believe.

Formerly my patients operated upon

by the ligature method suffered considerably, and it often became necessary to catheterize them, but since I discarded large, heavy, and harsh plaited silk for strong linen thread, they are rarely bothered with pain or inability to void the urine, because the sphincter and levator ani muscles are irritated much less.

Clamp and Cautery Operation.—The steps in this procedure are exactly as in the ligature method up to and including the cut at the muco-cutaneous juncture (Hilton's white line). pile is then drawn downward with forceps, clamped, excised with scissors, and the stump thoroughly burned with a Paquelin cautery. After all hemorrhoids have been removed, the stumps are greased with sterile vaseline, returned within the bowel, and the dressing is completed as in the ligature operation. A hemorrhoidal wound which has been cauterized should never be sponged, because when the burned surface is broken, dangerous bleeding follows.

Rectal tubes and gauze plugs should not be employed in hemorrhoidal operations because they make the patient uncomfortable, their removal is often attended with excruciating pain or bleeding and they are unnecessary when the operation has been properly performed.

The clamp and cautery operation is radical, causes but little suffering and can be painlessly performed under local anesthesia, but is not as satisfactory as the ligature method, because the patient fears the glowing cautery point and may not remain quiet and the cautery frequently fails to work.

Excision.—There are several ways of excising piles, some of which are easy and others difficult. The most elaborate technic is that of Whitehead, which consists in excising the lower two inches, or supposed pile-

bearing region and uniting the divided mucosa with the anal skin. This procedure appeals to the general surgeon, but is rarely performed by proctologists, and then only in a modified form, because it is difficult, bloody, and is frequently followed by infection, hemorrhage, delayed healing, pain, stricture, fecal incontinence, incurable ulceration, loss of sensation at the anal outlet, intolerable itching or other complications when primary union fails. I do not believe Whitehead's operation is ever justifiable in the treatment of uncomplicated hemorrhoids. I have treated more than two hundred men and women invalided by Whitehead's operation.

A simple method of excising hemorrhoids is to seize each tumor in turn, cut it off with one stroke of the scissors, ligate bleeding vessels and rapidly close the wound with a running catgut suture or permit the wound to heal by granulation; or the tumor may be removed in successive steps by first cutting and then suturing, and so on, until it is excised and the wound closed. The advantage of other and simpler operations over that of Whitehead is that a stricture will not follow because healthy strips of mucosa are left between the denuded surfaces and the bowel cannot retract.

Injection Method.—Since the popularization of operative procedures under local anesthesia, the injection treatment of hemorrhoids has become almost obsolete at the hands of the regular profession but some quacks continue to use the method since they are unfamiliar with the newer technic.

The injection of protruding and bleeding internal hemorrhoids with a 30 per cent solution of carbolic acid very often works magic, and relieves the patient almost immediately without detaining him from business or causing pain; but at other times and

under the same conditions, the injection is often followed by considerable swelling, great pain, sphincteralgia, sloughing, abscess and fistula, phlebitis, pyemia, a tedious post-operative treatment, imperfect cure and a number of deaths and sequelae have resulted from the procedure. I now have no occasion for resorting to the injection method because under eucaine (1/8 per cent) anesthesia, hemorrhoids can be painlessly removed within five minutes without causing the patient a long delay from business, causing dangerous or distressing complications and with the assurance that a permanent cure will follow.

Fissure.—When non-operative measures, such as keeping the feces soft, cleansing the wound and topical applications of silver, ichthyol or Balsam of Peru (8 per cent), have been intelligently tried and fail to heal a fissure, an operation is indicated without further delay.

Three surgical procedures—incision, divulsion and excision—have been employed in the radical treatment of fissure-in-ano or painful ulcer. Fissures do not heal because the wound obtains little rest, owing to frequent muscular contractions, consequently it is necessary, in choosing an operation, to select one which will completely place the sphincter temporarily out of commission.

The incision (division) operation is the simpliest and most reliable procedure, causes the least suffering and gives the quickest and best results. Formerly I favored divulsion, but now I incise the anal canal because this procedure puts the anal muscles at rest, allows the woun dto heal promptly and widens the rectal outlet, which lessens the possibility of a future tear and often cures constipation. In my earlier operations I introduced into the rectum a curved sharp-pointed bis-

toury and divided the sphincter by withdrawing it. The operation immediately arrested sphincteralgia, but the wound required from three to seven weeks to heal. Finally, I decided that the delayed healing was due to imperfect drainage of the cup-shaped cut. This defect in the technic can be overcome by substituting a probed for the sharp curved-pointed bistoury. The following procedure I can heartily recommend since I have successfully employed it in hundreds of cases without a serious complication.

Using my goose-necked anesthesia syringe, a few drops of sterile water or preferably a 1/8 per cent eucaine solution is injected into and beneath the skin at a point one-half inch posterior to the fissure. The needle is then pushed forward and the muscle and lower rectum are anesthetized. Using a pair of scissors having one sharp and one probe-pointed blade, I pass the sharper of the two through the tissues upward and posteriorly to the lower rectal for a distance of 1 inch or more at the same time the probepointed blade is passed up the bowel. With one cut the skin and sphincters are divided, leaving a clean wound, which drains perfectly at all times when gauze pledgets are inserted. Afterward the wound is treated as following fistula operations. Good results are also obtainable by dividing the muscle in the posterior median line on either side or by a posterior double or V-shaped incision. Some surgeons advise partial division of the sphincter in the treatment of fissure, but this procedure is unsatisfactory because of the difficulty in knowing how deep to cut and because it does not insure complete rest of the muscle, which is essential for a cure.

Divulsion is popular in some quarters, but I have discontinued it because the temporary paralysis induced

by stretching of the sphincter does not always last long enough to permit the fissure to heal. Stretching of the sphincter may be accomplished gradually with bougies and anal dilators, or quickly with the thumbs or fingers under local or general anesthesia. I have known several instances where complete fecal incontinence followed careless forcible anal divulsion with mechanical dilators or the fingers and have treated cases where the patient had multiple large rents instead of a single small fissure, following the stretching.

Excision.—Fissures are rarely excised because considerable tissue is required, infection frequently follows and the results are unsatisfactory. This procedure consists in trimming the edges of the rent and closing the wound by sutures or permitting it to heal by granulation, and the operation is not effective except when accompanied by division or divulsion of the anal muscle.

Ulcers located near the anus require the same treatment as fissures since they seldom heal until the sphincter muscle has been put at rest. Ulcers higher up are usually numerous, large, deep, and are caused by syphiltic, tubercular, dysenteric, entamebic, bacillary or catarrhal colitis.

In this class of cases the bowel should be frequently irrigated with antiscptic, stimulating or soothing solutions (silver nitrate, ichthyol or balsam of Peru, 1 per cent), with the patient in the knee-chest or inverted posture and lesions low down should be individually cauterized or treated through the proctoscope or sigmoidoscope by topical applications and when these measures fail, provision should be made for through and through bowel irrigation by appendicostomy, cecostomy or the writer's entero-cecostomy, which provides a means of irrigating both the ileum and colon separately or at the same time.

Fistula.—There are many types of fistulas, but I will not describe the operative measures of each because the underlying principle is the same in all. The more common or complete type of fistula may be operated upon by either the division or excision method.

Division is the best procedure because the technic is simple, requires but about five minutes, the results are universally satisfactory and fecal incontinence seldom follows. When the sinus is divided under local anesthesia the tissues immediately above it are injected with a 1/8 per cent eucaine solution until blanched, care being taken to prevent the needle from entering the tract. The end of the groove director is passed through the outer and then the internal opening into the bowel where it is caught by the index finger, brought outside and left resting across the anus. All overlying tissues are then quickly severed with a sharp-pointed curved bistoury, or the director may be dispensed with and the tract divided with the aid of the writer's probe-pointed fistula scis-

Excision Operation.—Here a probe is introduced through the sinus and brought out through the anus, where the two ends are twisted together, so that the probe can be used as a guide and tractor. The sinus is then quickly dissected out with knife or scissors by a succession of strokes made on either side. As soon as the tract has been removed, the divided ends of the sphincter and wound edges are accurately approximated by deep superficial chromicized gut sutures, after which a dry dressing is applied and held in position by a T-binder.

Blind Fistula.—Blind Internal Fistulae which run downward under the sphincter and skin are more difficult

to operate upon. Formerly, time was lost and occasionally false passages were made by the surgeon in his attempts to locate the sinus by cutting down upon it, but since the writer devised his angular grooved director, the operation has been simplified, viz: The angular grooved director is pushed upward into the rectum until its probed point can enter the opening and be drawn downward through the sinus until the integument bulges. It is then brought out through a small opening made for the purpose and allowed to rest across the anus until the overlying structures have been divided as in complete fistula operations.

In case this instrument is not at hand, the indurated tract is located by palpation and cut down upon, after which an ordinary director is introduced from without and the sinus divided in the usual way.

There is no danger of fecal incontinence following fistula operations where the sphineter is cut at a right angle, and the wound is drained instead of being packed, and the skin and mucous membrane are prevented from growing down into the cut and separating the muscle ends. The dressings should be changed when soiled and be replaced gently to prevent the destroying of fresh granulations which delay healing and favors incontinence.

Stricture.—Formerly stenoses, wherever located, were treated by forcible or gradual divulsion, but this dangerous practice has been abandoned except when the constriction is within three inches of the anus, because many deaths occurred from rupturing the bowels above the peritoneal attachment.

The rational treatment of strictures today consists in dividing them under local anesthesia when low down, excising the diseased gut when higher up, and performing colostomy in inoperable cases.

Polyps.—Polyps which protrude are anesthetized with sterile water or eucaine, ligated and cut off or excised by the clamp-and-cautery operation. When situated high they are located through the proctoscope and twisted off (tortion) or removed by placing a Gant valve clamp upon their pedicles which causes them to slough off in a few days without causing pain.

When polyps are very numerous and scattered throughout the colon and cause a foul discharge or obstruction, colostomy or excision of the diseased colon or rectum is indicated.

Part II.

Ano-Rectal Constipation (Stasis).

In considering this subject I will not discuss the treatment of the ano-rectal ailments, already outlined, nor touch upon the types of obstipation induced by strictures and benign and malignant tumors frequently encountered in this region. I do, however, desire to call your attention to the following types of constipation which are of common occurrence and responsible for intestinal stasis. Fortunately all of these conditions are easily and quickly remedied by minor surgical procedures. They are:

- 1. Hypertrophied O'Beirne's Sphincter.
- 2. Hypertrophied Rectal (Houston's) Valves.
- 3. Hypertrophied Levators Ani Muscles.
 - 4. Hypertrophied Sphincter Muscle.
 - 5. Coccygeal Deviation.
- 1. Hypertrophied O'Beirne's Sphincter.—Constipation frequently arises from irritation and thickening of this band of muscular fibers, which is located at the rectosigmoidal juncture. When this condition is present the regularity of the stools is interrupted and

feces accumulate in the sigmoid flexure because they are prevented from reaching the rectum, owing to the frequent and persistent contraction of this sphincter when the stimulus reaches it.

When the irritability of the muscle is due to ulceration or catarrhal inflammation, much can be done by the application of hot fomentations to the lower abdomen to soothe the bowel, and the daily injection of hot oil containing bismuth or a solution of ichthyol, hydastis, krameria and soda, permanganate of potassium, or boric acid to reduce the inflammation and heal the ulcers.

When enterospasm is of frequent occurrence, it can be effectively controlled by the administration of small doses of belladonna alone or in combination with opium. In cases of obstipation induced by hypertrophy of O'Beirne's sphincter to such an extent that the bowel is considerably occluded, divulsion is indicated and this can be easily and quickly accomplished by introducing a large proctoscope up to the obstructed point and passing a Wales bougie of proper size through the sphincter. Divulsion can also be satisfactorily accomplished by tamponing with a rubber bag distended with air or water left in situ as long as may be required. The treatment may be carried out daily or two or three times weekly, according to the exigencies of the case. Careless stretching of O'Beirne's sphincter with bougies and mechanical dilators is extremely dangerous.

When the treatment outlined fails, surgical intervention is imperative and the obstruction should be relieved by colostomy, resection, or by making an anastomosis between the sigmoid and rectum.

2. Hypertrophied Rectal (Houston's) Valves.—The rectal valves may become hypertrophied as the result of

chronic colitis, ulceration, and other affections of the lower bowel, and when they are rigid may project into the lumen of the gut and interfere with the feces reaching the anal outlet. Under such circumstances, lumps of fecal matter can often be seen or felt resting upon the upper or concave surface of the valves.

It has been claimed that obstinate constipation induced in this way can be corrected by the introduction of rectal bougies to massage the valves but I have never known such treatment to relieve the condition.

When the valves are markedly hypertrophied, nothing short of their division will effect a cure. Martin suggested valvotomy and exposed the valves by means of a large proctoscope, divided them with a bistoury and closed the wound with catgut (using a long-handled needle) or permitted the cut to heal by granulation.

The Martin operation is unsatisfactory because it takes considerable time, causes profuse bleeding difficult to control, there is danger from infection, the patient complains bitterly of gas induced by blocking of the rectum with tampons, it has been followed by peritonitis and confines the patient to his bed for several days.

To overcome the disadvantages of this operation, Pennington devised a clip which when adjusted divides the valves by pressure-necrosis. This instrument has not given satisfaction because it does not sever the valves deeply enough and is difficult to remove and replace it when imperfectly applied. I have devised a clamp with which the valves can be satisfactorily divided, and a pair of applicator forceps, by means of which it can be easily applied.

The technic of the writer's valvotomy is as follows: A clamp is placed in the applicator forceps and laid aside until needed. The patient is then placed in the knee-chest posture, the rectum is inflated and the valve exposed by means of an operating proctoscope and reflected light. The applicator is introduced and the clamp is pushed well down over the center of the valve and released by unlocking the handles of the forceps.

The entire procedure requires less than a minute and rarely causes pain or discomfort. To prevent distension pains from air which has entered the intestine during inflation, the patient is requested to lie upon the left side and strain while the proctoscope is being removed which forces the air from the bowel. I have performed more than 200 valvotomies in this way and the results have been very satisfactory. The principal advantages of my valvotomy are viz: it can be performed in the office, requires but a moment, causes little if any pain or bleeding, there is no danger of infection, it does not interfere with the patient's pleasure or business and effectively divides the valve, which drops down and no longer delays the evacuations.

In some instances valvotomy is followed by an immediate cure, but in a number of cases I have found it advisable to institute a post-operative course of massage, electric or vibratory treatments to strengthen and stimulate the colon which is often atonic.

The increased frequency of evacuations immediately following this operation are partly attributable to stretching of the sphincter by the proctoscope and the wound left, which excites peristaltic activity. I have never known a stricture to follow this procedure. Valvotomy is a useful adjunct in the treatment of constipation but it is not required nearly so often as the writings of some authorities would indicate.

3. Hypertrophy of the Levator Ani Muscle.—I have treated many patients who suffered from this type of consti-When this muscle becomes pation. irritable or hypertrophied, it clamps the rectum laterally and partially or completely blocks passage of the feces. In some instances the muscles can be felt as a thick, rigid band at the sides of the rectum about two inches above the anus, in others it becomes irritable and spasmodically contracts when the feces reaches the entrance to the anal canal and delays or prevents their expulsion. I have known this muscle to remain rigidly contracted for a considerable time and induce frequent micturition, obstipation, and excruciating pains.

When this type of constipation is temporary and induced by irritability of the muscle, applications of heat at the anus and inside the rectum do much to soothe and cause it to relax, but when ineffective, a suppository containing belladonna and opium is indicated but then the condition is chronic and the muscle is markedly hypertrophied, an operation is necessary.

Elsewhere* I have reported six cases of obstinate constipation induced by hypertrophied levatores ani muscles cured by operation. In three the coccygeal attachments of the muscle were divided under local anesthesia by subcutaneous tenotomy. In two others the coccyx was reached through a twoinch posterior median incision and the muscle was severed from its bony attachment, after which the wound was closed by interrupted sutures of cargut. The sixth case was not relieved by severing the muscle from the bony attachment and it was found necessary later to amputate the coccyx and perform myotomy to destroy the action

^{*}Gant: Constipation and Intestinal Obstruction (Obstipation). 1909.

of the muscle upon the rectum. The steps in the latter operation are about the same as the first part of the operation for excision of the lower part of the rectum.

Since the publication of the above cases I have successfully treated more than a dozen other cases by eucainizing the posterior rectal wall and splitting it and the Levator Ani with the aid of a long blunt pointed bistoury.

4. Hypertrophied Sphincter Muscle.

—Owing to the frequency of disease at the anal outlet, the external sphincter is excited to frequent contractions. As a result it becomes irritable or hypertrophied and interferes with the evacuations. Regulation of the diet, laxatives which soften the stools, heat, soothing lotions and ointments which diminish anal soreness, help to overcome the constipated state and lessen sphincter irritability, but when the muscle is hypertrophied or has undergone fibrous degeneration and arrests passage of the feces, palliative should be discarded for surgical measures. This type of mechanical constination nearly always is relieved or cured by divulsion or dividing the sphincter.

Divulsion may be accomplished gradually with dilators and bougies, or (quickly) by thorough stretching of the sphincter with the thumbs or index fingers under local or general anesthesia. There is no objection to producing a temporary paralysis of the muscle by stretching, but in so doing care is needed to avoid rupturing the sphincter which is always followed in incontinence.

When the sphincter is thick or fibrous, I prefer complete division under local anesthesia, which takes but a moment, to divulsion, because it permanently increases the caliber of the anal outlet, while divulsion does not. The technic of this is the same as that advised in the treatment of fissure-in-ano.

Some surgeons advocate divulsion of the sphincter in practically all cases of constipation, but such a routine practice is absurd and pernicious because it is unnecessary and indiscriminate stretching of the sphincter muscle often leads to fecal incontinence. It is well enough to increase the anal outlet when tightly contracted, but there is no use in divulsing or dividing the sphincter when it is relaxed, as is often done.

5. Coccygeal Deviation.—When the lower segments of the coccyx project inward, diminish the rectal lumen and induce constipation, they should be removed.

Excision of the coceyx, as usually performed, takes twenty minutes or longer and is often accompanied by profuse bleeding. My operation* is practically bloodless, never takes but three minutes, and the only things required are a needle, catgut, and a heavy pair of blunt seissors.

The skin and subcutaneous tissues are grasped beteen the thumb and fingers of the left hand and thrown over the lower end of the coccyx; then, with one cut of the scissors made parallel with the long axis of the bone, the tip of the coccyx is reached; with a second, the end of the bone is freed; with a third and fourth, the attachments of the right and left sides of the coccyx are divided, and with the fifth, which is made at a right angle, the offending segments of the coccyx are detached and removed.

To avoid injury to the deeper vessels and those running along the posterior rectal wall, the blunt end of the scissors is directed outward, except while the first and second cuts are being made. Bleeding can be quickly arrested by momentarily packing the wound with gauze wrung out of boiling water. The wound is then closed by two or three interrupted chromi-

cized catgut sutures and covered with a dry dressing, which is retained in place by adhesive straps or a T-binder.

When excising the coccyx, care is needed to see that spiculae of bone are not left to cause post-operative pain. I have succeeded in curing four patients (three women and one man) of obstinate constipation of years' standing by this simple procedure.

Had I time, an interesting description could also be given of appendicostomy, cecostomy, ileo-sigmoidostomy, colectomy, sigmoidopexy and other procedures which in recent years have been so successfully employed in the treatment of myxorrhea membranacea and myxorrhea colica and the manifold colonic lesions responsible for chronic diarrhea and constipation, which in the past were unsuccessfully treated by internal medication and dieting.

In conclusion, the writer would urge surgeons to adopt modern methods of diagnosing rectal disease, simplify their office treatment, and perfect their technic so that they successfully operate upon fissures, hemorrhoids, fistulae and other minor diseases of the anorectal region without general anesthesia or other objectionable features. Should they do so, he prophesies that advertising pile doctors will be eliminated within the next decade, which would be a blessing to both laity and profession.

THE BETTER WAY OF PUTTING A DIAPER ON A BABY.

*By Samuel A. Visanska, M. D., Atlanta, Ga.

I T IS with peculiar pride and pleasure that I come before you today; not as a fellow physician, not solely as an invited guest from another

State; not as a scientist with an idea to advance or a theory to exploit, and least of all as a stranger seeking an introduction to the medical men of South Carolina. On the contrary, it is as one of your very own brethren that I am here; this is, indeed, a veritable home-coming occasion for me, for as some of you may remember that not only is South Carolina my native State but I first saw the light of day at my grandfather's home in the adjoining County of Abbeville, within a few miles of the town of that name.

But even of more importance than the mere accident of a birthplace is the fact that Doctor Parker, your able President, was once my own preceptor, and my first faltering steps along the rugged pathway of a medical education were taken in the Medical College of South Carolina.

That Doctor Parker should have asked me to be with you today gives me genuine gratification, and I shall always count it as one of the few rewards of my professional career that my brethren in South Carolina have kept cognizant, in some measure, of my work, and that they have made it possible for me to thus address this learned body of my professional peers.

I, therefore, take this occasion to thank Doctor Parker first of all for his kind invitation to meet with you, and then to thank each one of you, my hearers in advance, for whatever attention you may accord my little talk.

Certainly if you have anticipated an eminently scientific treatise on some purely abstract subject, or if you have desired an array of unusual theories regarding any one of the grave problems that beset our profession, then I fear you will undoubtedly be disappointed when you note the very humble nature of the subject upon which I have decided to speak to you today. But if we follow the plain pathway

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

of evolution in the physical world we will at once admit that it is from the humblest beginnings that the most farreaching results are traced, and also that it is from the most apparently simple errors that gigantic physical disabilities may occasionally result. I have always believed that the attention of a true physician must be directed just as closely and as carefully to preventing disease, deformity and death as it is to combatting these conditions when they exist or threaten. It is because I have myself endeavored to adhere closely to this theory in my own private practice that I was first led to observe a very simple thing, which, I still believe, might well cause some complex and inexplicable physical conditions the source of which we can trace in no other way.

We have all heard and read learned diatribes against the modern method of dressing the adult; we are actually inured to much of this, and yet I feel certain that many of the present fashions which indicate a general dress reform may be traced to the continual protests of the true physician. For instance, our women no longer are bound in iron stays which marked the dress of "good Queen Bess" of an earlier century; nor are they invariably fettered with ridiculous heels half a foot high, nor are they choked with tight collar bands reaching to the ears, and compressed with waist lines which can be spanned with an open hand. Extremes in dress we see, of course, but it is a general rule that these are gradually giving way to modern good sense, and fashion itself is setting the pace for a healthier, heartier and happier race of women.

But despite these self-evident facts in the dress of our women, there has been comparatively little change in the dress of our infants since the earliest recorded times. This, too, despite the fact that infancy is the period when the human bones are soft, pliable and easily directed into normal or abnormal lines. We need no greater proof of this than that furnished by the feet of the Chinese women which are even today deliberately deformed in order to keep the female safe at home by depriving her of even the physical power to wander far afield.

We would be horrified if it were even suggested that we of the western world might be starting our own children in the race of life with a physical handicap compared to which that of the Chinese would seem small and insignificant.

I am not attempting to reform the whole human race and I would not have you think for a moment that that was even my most remote intention, but I do hope you will agree with me that at least I have discovered one heretofore overlooked avenue through which radical reform seems certainly indicated.

It has been my special function to devote myself for years to the diseases of children, and by a mere accident I happened to find a method of dress reform which I am anxious to submit for your consideration. I cannot, however, claim to have originated the reform and the only credit I can claim, if credit of any sort there is, is that of recognizing the possibilities involved in a suggestion which came to me through a Chicago woman who brought her baby to me for treatment. When I took the rectal temperature of the little one I instantly was attracted by the novel method which the mother had used to adjust the child's diaper. Instead of the usual plan of folding the napkin in a triangle with the point pulled upward and the ends fastened tightly around the waist, this mother had folded the napkin in a long strip and had cut the cloth almost square,

a little longer than wide. Two safety pins were used; one on each hip of the child, thus securing the bandage comfortably, perfectly, and while affording the protection needed there was absolutely no undue compression of any organ or set of organs. I asked the mother immediately why she used this method; her reply was that it had seemed to her "more comfortable," and at once my mind was busy with the many reasons as to why this should be exactly true. "More comfortable" in every way; not only for the child at the moment, but for the physical health of the adult in the future.

Think for a moment of the added comfort of a child relieved of a tight binding across the lower abdomen where originate so many forms of intestinal disorders, disorders which might indeed be produced by this very tightness of the napkin. In fact I have often been called to infants crying from no apparent cause and on examination I have found the tender flesh marked by a dull red line where the napkin had been bound tightly around the body and when this was removed the child became instantly quiet. It seemed very evident that a little gas had formed after the napkin had been adjusted and the pressure had become almost unbearable. Yet another point occurred to me in this connection; the majority of people are right-handed and for this reason a sharp pull is given from the left toward the right side when the napkin is adjusted, and as this brings the pressure directly over the sigmoid which, as you know, is found on the left side and holds the fecal matter until expelled, the pressure here and over the lower part of the abdomen is no doubt one of the main causes of intestinal stasis in infants, for it is a fact that seven out of every ten infants, whether fed at the breast or artifically, are constipated.

Yet another cause for this intestinal stasis may be found in the horrible abdominal band or binder which is universally used and as often improperly adjusted as the napkin. It is difficult to convince the average nurse or mother that this is merely a navel dressing and subserves no other purpose whatever. But the combination of tight binder and torturing diaper form an absolutely cruel method of dressing an infant and yet it is as universal as infancy itself. Not a few women want the diaper and the binder to fit as tightly as a corset, and here we have a combination of pressures quite as unnatural as the foot binders of the Chinese already referred to, and a thousandfold more dangerous.

For many months I have been carefully investigating as to the texture of the bones of the pelvis in infants, and I have found these bones quite as pliable, in proportion as the other bones in an infant's body. Parvin, in an old work, and some of our latter day authorities tell us that the pelvic bones in early life are composed of three bones and as between them the ossified union is not complete until the subject is eighteen or twenty years old. These same authorities also state that "iust as no two human faces are exactly alike so it is probable that no two pelves can be found which do not present some differences" and in addition to this it is further claimed that "no pelvis is perfect in symmetry and form or normal in measurement." But it is difficult to state positively that our infants are born with these pelvic differences, and even though the sacrum and coccyx complete the pelvis posteriorly my conclusion as to the possible effect of the napkin would not From all of this, therebe altered. fore, we can can see that by making undue pressure around the pelvic bones the antero-posterior diameter is

slightly lengthened, and the transverse made narrower, and by making greater pressure on the left side than on the right it would unbalance the normal pelvis even if the bones were normal, more so if rachitic. In considering the effect of the misused diaper we must bear in mind that it is a bandage worn twenty-three hours out of the twenty-four, and in the majority of cases until the infant's eighteenth month, while it is not unusual to find this garment on a two-year-old child.

Neither the bladder nor the uterus takes its proper place in the pelvic cavity until the child is at least six years of age, hence during the entire period when the diaper and binder are used the unnatural pressure is a menace; in fact, until the twenty-fifth year this danger may exist, for not until that time is the bony union complete.

We might well retrace our steps a little and learn a valuable lesson on this whole subject from our Indian forebears. The Indian papoose has a diaper it is true, but it is a garment of soft cloth, and this cloth is rolled round the Indian infant; it is not even pinned in any one place, but the baby's entire body is left as nature intended it to be, comfortable and straight and unhampered by any of the artificial dressings of modern society. Who shall say that much of the female health and strength among the Indian tribes is not due to this very cause? Certain it is that Indian women bear children easily; instrumental delivery among them is almost unknown, they seldom have any form of pelvic disorder and research shows that the Indian woman dresses loosely from infancy to old age; that her health is proverbial and there must be a reason for it.

Gentlemen, may it not be possible that the very question I am discussing may furnish the explanation of this? The out-door life the Indian woman leads; the hard work she does, the coarse food she eats could not furnish the reason. It must lie then, in their manner of dressing, and while I do not advise our own women to give up a tight fitting, correctly supporting corset, I do most strongly urge that the soft bones of our infants be left unhampered. I do insist that there is some fundamental reason for much of the discomfort, danger and disease so prevalent in our social life today. Neatness in woman's dress is an essential; neatness in caring for our infants is equally necessary, but neatness and are absolutely compatible, whether in the infant or the adult.

Before attempting to demonstrate exactly the method of adjusting the diaper in the new way let us consider yet a step farther, the conditions produced by the old method. We must consider that the fundus of the uterus is on a line with the anterior superior spinous process; that the bladder when full rises a little higher, and that when you put on the baby's napkin, tight or loose, and pin it in the center with a large safety pin and sit the child up, imagine what takes place underneath the artificial bandage, especially when, as often happens, the long ends of the triangle are knotted and forced under-This latter neath the front point. practice makes a hard lump pressing deep into the lower abdomen, and it would be wonderful indeed if deformities did not result from such conditions. I say again that I believe they do so result, and there are many minor means of proving it. For instance, I have heard a fashionable dressmaker as well as a well-known tailor state that the female form is found to be larger in the right hip than in the left in seven out of every ten cases. This is more noticeable in females, where the garments must be fitted more carefully over the hips than in males, and if this is a fact why might it not result from the pressure brought to bear upon the left side in infancy, thus preventing its normal development while the right side unfettered grows to full size? We all know how common uterine and other pelvic displacements are in women: we even hear it said occasionally that these are "congenital"; but are they? Why might they not result from the very conditions we have been discussing and why, if this is even possible, cannot we begin at once to prevent such deformities in the future?

I hope you will all consider this question; I know it is a perfectly new idea, but when we recall that there are even now presented revisions of the Bible itself, why cannot we safely consider revisions and reforms in our dressing of infants? I am anxious to show you exactly what the new method of putting on a diaper in a safe way is idemonstrates method), and to this end I had a series of photographs taken to illustrate and emphasize my point.

I am indebted to Dr. R. L. Hannah for his assistance with the photographs taken post mortem, and also to Dr. John Derr, both of Atlanta, who made an excellent X-ray of the infant pelvis, while Mr. Alf Lomax, the well-known Atlanta photographer, produced the finished picture. Miss Crawley, R. N., assisted me with the pictures of the living baby, and I shall always feel grateful to these friends who contributed so substantially to my successful investigations.

The pictures tell their own story and it is truly encouraging to note the ready acceptance of the new method of putting on a diaper which is accorded to it by nurses, doctors, and mothers everywhere.

At the Child Welfare Exhibit held

in Atlanta in the fall of 1914, and which was given under the direction of the National Child Welfare Association. I had a demonstration of this new way of putting on a baby's diaper, using a life-sized doll as the subject. The nurses in charge of this exhibit told me that it was the most attractive and most crowded display of the entire exhibition.

Then, too, when I was in Philadelphia some months ago I explained my ideas and my plan to Dr. Francis Sinkler, physician to the Episcopal Hospital. He introduced the new method in that hospital and since that time I have heard from him, and he writes that the nurses are using the new way of putting on a diaper and "that it works admirably and should be universally indorsed." It is also in use in the Atlanta Child's Home, in Doctor Baker's Sanitarium, in Charleston, S. C., and in many private homes in Atlanta, Charleston, and other portions of Georgia and South Carolina.

This is a hopeful indication and one which I welcome eagerly as indicating that mothers are ready for reform; that the old methods when proven harmful, will readily be relinquished. and that we stand today facing a new era in which we shall take note of even the most minute matters when they seem to tend toward safer, saner and more sanitary methods of living. To the physician it is given to discern "the handwriting on the wall" and to him more than to all others is granted the privilege of interpreting the message and of handing it down from generation unto generation until our race shall come again into its lawful heritage of perfect health, strength, and physical well being.

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THE DISEASED TONSIL A FACTOR IN THE PRODUCTION OF SYSTEMIC DISEASES.

*By Leland O. Mauldin, M. D., F. A. C. S., Greenville, S. C.

N THE light of modern investigation the diseased tonsil is no doubt differently defined from the way it was a decade ago.

Well does the writer remember the time when the word "hypertrophy" was applied with classic intent to the tonsils when diseased, indicating by the degree of hypertrophy the intensity of the tonsillar trouble present; but in the present day of medical progress when we sift the facts that have been handed to us from the scientific and systematic research of able clinicians and laboratory experts, we come directly to the conclusion that the severity of the tonsillar disease bears a ratio, not necessarily to the hypertrophy, but certainly to its infectivity. Of course the hypertrophy may indicate that there is an infection present, but generally speaking, the small raggy tonsil, roughened on its surface, with adherent edges matted into the pillars of the palate is fruitful of more systemic trouble than the immensely hypertrophied one.

The old question, "What constitutes a diseased tonsil?" is still a burning new question. My answer is that a diseased tonsil is one which on account of its infective, obstructive or irritative property is a menace to a patient's general health. The determination of whether or not a tonsil is a menace to the health of an individual is a question for the good judgment and diagnostic acumen of the examiner. The questions of hypertrophy with its attend-

ant obstructive effects, the history of frequent inflammatory attacks, the inflammatory appearance, the gated surface, the adherent edges matted into the pillars of the palate, the choked crypts, the tenderness to touch, exudation of pus when squeezed, the enlargement of the glands which drain from the tonsils, some of which local manifestations are usually present in the diseased tonsil and all of which are sometimes present, should be considered, and the systemic manifestations are such as we would expect from the tonsil as a focus of infection. Among these I would mention acoustic disturbances of the ears, chronic arthritis, nephritis acute and chronic, cardio-vascular degenerations, chronic neuritis, myalgia, peevishness in children, general lassitude, secondary anaemia, and disturbed digestion and usually a temperature that is slightly above normal. The foregoing local and general considerations should be foremost in our minds when making an examination for a diseased tonsil. Having satisfied our minds that a tonsil, on acount of its clinical manifestations is a diseased one, we should thoroughly eneucleate the same, and then if necessary, like the removal of malignant tumors, the diagnosis can be verified by the microscopic and laboratory examinations.

We have referred briefly to the well-known local changes which occur by occlusion of the pharynx by enlarged tonsils with subsequent mechanical interference with respiration and consequent systemic disturbances. These are traditional types of tonsillar disease and have received their proper text-book importance, but it is the septic factor of the diseased tonsil which has not been given its share of attention.

It is this infectivity of the diseased tonsil that is so intimately connected

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

with our every day experiences in medicine; embracing, in fact, every branch of medicine, that we should give such serious thought as will enable us to bring our minds to wellformed opinions on the subject.

In speaking of the diseased tonsil as a focus for systemic infection I do not discount the fact that there are many other foci for infection, for along with the study of the tonsil from this standpoint it has also been found that there are other pathological foci of infection which are mentioned as follows: Alveolar abscess, chronic sinusitis, cholecystitis, submucous abscess anywhere, acute and chronic appendicitis, salpingitis, vesciculitis, seminalis, prostatitis, and furthermore secondary foci are found in the lymph nodes.

The mucous membranes of the head, mouth and throat are probably exposed to a greater variety of germs than all the other mucous membranes of the body, and so is the tonsil more exposed to a greater variety of these micro-organisms than any other gland in the body. The anatomical structure of the tonsil renders it especially susceptible to germ infection. Nearly all known pathological germs have been found in the diseased tonsil, but the germs most frequently found are the streptococci, staphylococci, and pneu-The streptococcic infection mococci. seems to have been proven out as the particular infection that has caused the systemic troubles.

The work of Rosenow and others shows that the streptococcus may change its cultural and pathologic characteristics by varying the culture, the oxygen tension, etc., and by animal inoculation. The occurrence of chronic infectious endocarditis, of acute rheumatic arthritis, and of chronic arthritis all due to the streptococcus, but of different strains produced by varying culture methods makes it seem highly

probable that this mutation might take place in the tonsil or other foci of infection. The varying degrees of oxygen tension might be present in tonsillar tissue, the biochemic changes may occur there, and other unknown causes may bring about the mutation necessary for the different strains to be formed, which strains have been found associated with the diseased tonsils in the different inflammatory areas in remote parts of the body.

It is quite probable then that the streptococcic infection is the one to demand our most urgent attention, that in the tonsil it undergoes certain changes which bring about certain strains of the micro-organism, which strains act as certain poisons to produce certain diseases in different tissues of the body. The strains being transmitted through the lymphatics and blood supply to the particular tissues or organs that are affected.

It has been proven that such modincations can and do take place in the tonsils most frequently, and in other infectious foei occasionally.

The laboratories have proven that rheumatism with many of its attendant results have come directly from infected tonsils, and clinical experiences have shown rheumatic and other mentioned systemic troubles to clear up on removal of the diseased tonsils. Nearly every throat man sees these cases in his practice and many are the cases that he can cite as having been relieved of mentioned systemic diseases by the removal of diseased tonsils or other foci of streptococcic infection.

I will not close this paper without saying that the tonsil, according to recent research, has been found to harbor the amboeba buccalis, but this organism is most frequently found in the alveolar processes, and sometimes the amoeba of amoebic dysentery is present.

ETIOLOGY AND SYMPTOMS OF PELLAGRA.

*By J. S. Fouche, M. D., Ninety-Six, S. C.

P TO 1905 this country was little concerned about pellagra, because before this time the cases had been recognized as such, but when you take into consideration that this disease is now more prevalent than any other in our asylums, orphanages, mill villages, and on some of the large plantations, and also that a disease, ten years ago practically unknown, is now standing forth as a cause of death in South Carolina, you will readily agree with me that it is one of, if not, the most serious problems now facing our profession.

Now, seeing the rapidity with which this disease is spreading over our country the first questions asked are, What is the cause of Pellagra, and is it contagious? While answering that we do not know yet, we must admit that we do have some idea as to the cause. There are now three new ideas that are being considered: The first and oldest idea is that pellagra is due to an intoxication as a result of eating spoiled maize, this idea so universal at first that for several years many people of the South excluded corn in any form from their diet, even today Italy is spending large sums of money for maize inspection.

It would be idle to discuss the spoiled corn theory any more because all the evidence that has been offered in support of this theory is overcome by the finding of pellagrins who have never eaten corn or corn products. And too, pellagra is prevalent where corn is practically unknown.

In 1905 Sambon suggested that pellagra was a protozoal disease, and that

it was transmitted by an intermediate host which he thought to be the buffalo gnat. Subsequent investigation is Italy served to strengthen this view, and a recent report claims that this fly is invariably found wherever the disease occurred, but it has been shown that the buffalo gnat only desposits its eggs in fresh water streams above tide water, and it is a noteworthy fact that pellagra is prevalent on the islands off the coast of Charleston which are entirely surrounded by salt water. I must say right here, to my mind, Sambon's theory that it is a protazoal disease transmitted by an intermediate host is still unshaken, but he must get another host as the buffalo gnat is only found on fresh water streams.

The third idea is, pellagra is caused from an unbalanced or one-sided diet, and the Southern people eat too much starch and not enough pork is why pellagra is so prevalent in the Southern States. Now, if this be the case, isn't it strange that there has been such a material change of our diet in the South during the last ten years, I hardly think that there has been in so short a time as to cause over ten thousand cases which are now in our State. If pellagra is caused from a one-sided diet then how do you account for it occurring as an epidemic (because pellagra surely does occur as an epidemic), with seasonal outbreaks. In Ninety-Six, a small town of fifteen hundred people there were, in the spring of 1915, no less than sixty cases of pellagra, fifty of these cases were found on two streets running parallel, on one of these streets there are three houses side by side, in the first house lives a family of seven all of whom have pellagra, the next house lives a family of eight of which seven have pellagra, the third house has a family of three, of these two have pellagra A recent report of the Thompson-Mc-

^{*}Read before the Greenwood County Medical Society, October, 1915.

Fadden Pellagra Commission showed in the group of incident cases most thoroughly studied, evidence of close association with a pre-existing case was diclosed in more than eighty per cent. Another report says, "We are inclined to lay stress on the indication apparent in our statistics that poor nutrition or other predisposing cause results in pellagra only when the individual in question has lived in relatively close association with a previous case of pellagra. The great mass of the copulation living under the general condition of environment and using the same food, but living at a greater distance from cases of pellagra escape the disease." Martin Wells says, "The fact that pellagra presents a typical picture of a plague, a disease showing a pathological entity, which has in a few years spread over a vasnew territory, classes it as clearly an infection due to a living organism as the spread of any other plague does, or as the spread of the boll weevil is conclusive of a living insect." You will agree that pellagra has spread most rapidly where the open privy method is used for sewerage disposal and where other insanitary conditions exists, therefore the evidence does indicate that pellagra is an infectious disease having a specific cause, the specific cause and method of infection are yet to be discovered. Pellagra is not contagious in the sense that measles and scarlet fever are but it is certainly a communicable disease.

It may be transmitted by insects as in malaria, yellow fever, and so on, or by infected food and drink as in typhoid and tuberculosis, therefore, mosquitoes, flies, bed bugs and insanitary disposal of sewage deserve careful consideration. As pellagra appears more prevalent in the Piedmont section of our State, near the large centers of population and particularly in the cot-

ton mill villages and we do know that the bed bugs thrive in such locations, but mosquitoes are more numerous on the coast and lower section of the State. Another fact is that bed bugs are migrating insects to a limited degree and most all new cases of pellagra develop either in a house which a preexisting pellagrin was living or next door to such a house. Thus would it not be a good idea to declare war on bed bugs as a probable method of transmission and at the same time not to forget to look upon mosquitoes. flies, fleas, infected food and drink with suspicion and to consider an unbalanced diet a predisposing factor.

Symptoms.

There is no disease that is so easily recognized in the advance seasonal outbreaks as pellagra when once seen. In the beginning of the disease, however, and during the quiescent stage the diagnosis is more difficult and very often you will have to wait for the seasonal outbreak to help you out. Pellagra usually begins with feelings of weakness and a consequent disinclination to work. The patient is pale, has a peculiar staring look and complains of headache, giddiness or vertigo, and vague pains in the back and joints. He is stupid, more or less irritable and morose.

The tongue at first is coated then it becomes denuded of its epithelium, often extending to the palate and gullet, the patient complains of a burning and saltish taste. The gums are swollen and bleed easily, there is usually eructations of gas, neausea and vomiting, loss of appetite, watery diarrhoea, stools sometimes containing blood altenating with constipation. The urine contains an increased amount of indican, traces of albumin, and tube casts are sometimes found.

Often from the beginning an ery-

thema similar to a severe sunburn is found on the back of the hands, forearms and the dorsa of the feet, the eruption is characteristic, appearing symmetrically and becomes much worse on exposure to the sun, the patches of crythema are irregular in outline and intensity, it usually lasts from two to four weeks and is followed by desquamation, which leaves the skin slightly discolored.

The nervous system is always involved as is shown by at first exaggerated reflexes which are later lost.

The patient experiences great weakness especially in the lower extremities
and complains with peculiar attacks of
giddiness and tendency to draw the
head back often suffering from obstinate sleeplesness. A few months after
onset symptoms abate only to recur
next spring in a more severe form.
The suppression of spirits may deepen
into melancholia with maniacal interludes and a tendency to suicide, especially by drowning or burning. The
pains in the head and back become
very acute twitching tremors and even
convulsions are common.

Cases differ considerably, in some the nervous symptoms predominate, in others the cutaneous, in others again the gastro intestinal. For several years the disease may recur with increasing severity and the patient finally dies from exhaustion.

THE SKIN DISEASES OF CHILD-HOOD.

*By I. Schayer, M. D., Columbia, S. C.

A N ORGAN is that part of an animal which performs for it one or more definite functions. If in the humble attempt at the consider-

ation now about to be undertaken on my subject, I can accentuatingly refreshen your memory of the fact that the skin is a definite functionating organ, I will feel that I have not vainly encroached on your valuable time.

The skin is a distinct organ—it is not a mere covering of muscles, tendons, nerves, etc., but has other valuable purposes; chief of which is that of excretion. If one could denude the body of its entire skin; roll it up into a compact mass; place it within the abdominal cavity with all its little arteries going into it as one large artery. and all its little veins going out of it as one large vein, one would then have added to all practical purposes another kidney within the abdominal cavity. Imaginative as this little flight is, nevertheless it is based upon fact, if we would just stop to remember that the skin excretes at least two pounds of water a day on the average—about two-thirds of the average amount excreted by both kidneys. Equally important of course is that goodly amount of the solid excretion, similar to that carried out in the urine, is also gotten rid of by the sweat.

Stress has been laid upon this excretory function of the skin. Because of the abuse of it, we have many or most of the important skin diseases of childhood. Of course there are many external causes of skin diseases of childhood of other mechanical origin plus lower life invasion. Heat and cold. trauma, and the lower forms of life, all play their part, but they might almost be called physiological causes, in that that it is one of the functions and purposes of the skin to receive these causes and protect the body underneath from them, and it is only when the heat or cold is too intense, and the trauma too violent, that we have a suffusion and stagnation of blood, or a break in the continuity of the skin, offering an open

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 22, 1915.

portal for the invasion of the lower forms of life.

From these causes then, we have usually only acute, or semi-acute, mild, or severe inflammatory conditions, varying from sunburn, chapped hands and face; from Impetigo Contagiosa, to Scabies, and to the various forms of Ring Worm. These conditions, therefore, are to be dealt with merely locally—with from boracic acid or similar mild solutions, to ichthyol, tar, or other antiseptic applications.

As before stated, stress has been placed upon this excretory function of the skin because, when we have a disturbance of this function, we then have indications that this organ (the skin) is complicated with a general infection of the body. If, in the course of that good old cloak, rheumatism, we detect a nephritis, we call that a complication realizing that the kidneys have been overtaxed by these rheumatic causes—their toxins and endo-toxins. So then, if in a child we have various sized erythemic spots, with a purplish tendency, usually upon extensor surfaces, with perhaps vesicles, papules and pustules scatteringly surrounding these spots, let us not merely term this Erythema-Multiforme or Rheumatica, but let us consider it as a complication of some systemic infection usually disposed of under the cloak of rheumatism. Treat this child then, by resting it, examining its gums, mouth, tonsils, and throat. Asepticise its intestinal tract as much as you can with purges and restricted diet; flush its

kidneys; use your usual anti-rheumatic remedies or salicylates, or aspirins, and not merely consider this condition a local or external skin disease, and apply useless or perhaps irritating salves and ointments.

If in a child, you see large inflamed. bright red areas with a tendency to confluence, that become moist and weepy, and irritate and itch the child —it tries to get "even" and scratches them—they in turn become highly inflamed, excoriated, pustular, infected, in fact, don't simply call that eczema and slap on a gallon or two of calamine lotion or a pound or two of zinc ointment, but make a painstaking, thorough investigation of the possible cause for this child's affliction, particularly with regard to disturbances of its intestinal tract from improper diet. Find these causes and relieve them, and you will cure this skin complication again without so very much of these external applications.

I have given these two examples to show the intimacy of the relation that exists between this organ (the skin) and other important organs within the body; then when you are called to see a child with anything from hives to a tuberculide, don't merely consider it as a manifestation of a disturbance of the skin, but remember that you have before your eyes a manifestation of a complication of the organ, the skin, from a general systemic cause. Search for that cause, remove it if you can—treat the child and not only the skin.

SOCIETY REPORTS

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COLUMBIA.

The Columbia Medical Society met October 11, 1915, in regular monthly session. In absence of the President, Dr. P. V. Mikell, the meeting was presided over by Dr. C. L. Kibler. Twenty-one members present. Visit-

ing physician, Dr. J. C. Perry, Senior Surgeon United States Public Health Service, was voted the privileges of the floor. Doctor Perry spent eight weeks in Columbia making a sanitary survey of the city.

The program consisted of the following:

Dr. S. E. Harmon reported five cases, the first was a case of intestinal obstruction the result of an extra uterine pregnancy of possibly ten years standing. Dense adhesions bound the mass to the bowel. Patient made a complete recovery after removal. Second, a case of typhoid perforation which recovered after operation. Third and fourth cases of suspected perforation in which both patients reacted avoiding operative procedure. Fifth, a case of abdominal phlegmon of uncertain origin which was relieved by drainage.

Symposium upon the Removal of Tonsils:

Dr. R. L. Moore opened the symposium with a short description of the anatomy of the tonsil and the function of same. As to operation prefers tonsillectomy at the same time producing as little trauma as possible.

Dr. C. L. Kibler next discussed the subject demonstrating several preserved specimens. As to operative procedure follows the method outlined by Doctor Beck.

Doctor Whaley in his discussion referred to tonsils being unipolar, bipolar and tripolar. He believes what is usually referred to as the capsule is a pyogenic membrane. As to method of operation prefers that followed by Doctor Crowe. Further discussion by Doctor Weston and Doctor Durham.

Dr. H. W. Rice reported an interesting case of pyonephrosis affecting the right kidney. Patient made a good recovery after removal of the organ. Doctor Rice also reported a repair of a vesicovaginal fistula.

Dr. Wm. Barron and Dr. S. E. Harmon referred in their discussions to the importance of the G. U. tests prior to operations upon the kidneys.

Dr. Wm. Barron reported two cases of fatal bichloride poisoning.

Adjournment until November meeting.

Edythe Welbourne, Secretary.

ORANGEBURG.

The Orangeburg Medical Society held its regular monthly meeting at City Hall, Orangeburg, October 19. After routine business was disposed of, the Society gave the entire time of the scientific session to its invited guest, Dr. B. B. Steedley, of Spartanburg. His paper, the subject of which was "A Resume of the Past Six Month's Personal Experience in Surgery," was enjoyed very much by those present. After adjournment Doctor Steedley was the Society's guest at a dinner, where a pleasant social hour was spent.

Vance W. Brabham,

Secretary.

UNION.

The Union County Medical Society met in regular weekly meeting in the office of Doctors Berry and Switzer.

Dr. R. R. Berry, the president, presided over the meeting with the following membrs present: Doctors Berry, Going, McElroy, Jackson, Salley, Sarratt and Switzer.

The minutes of October 11th read and approved.

The Board of Censors reported on the charges against Dr. D. H. Montgomery, which was received by the Society and discussed.

The following resolution was offered and adopted:

Resolved, That we, the members of the Union County Medical Society,

in session held October 18th, 1915, do endorse the following resolution:

That Dr. D. H. Montgomery having pleaded guilty of the charges of immorality, this Society severely condemns such immorality.

The action of this Society is taken on his acknowledgement of guilt, appeal for mercy and promise of good behavior in the future.

That we the members of the Union County Medical Society do take this method of publicly reprimanding him.

That a copy of these resolutions be published in the Journal of South Carolina Medical Association and the minutes of the Society and a copy be sent to him.

Dr. Berry read Cabot's case histories each member giving his diagnosis, followed by the hospital record and anatomical diagnosis.

We then had clinical cases reported by individual members and general discussions of each case.

Their being no other business we adjourned to meet next Monday night.

S. G. Sarratt, Secretary.

Fifth District Medical Society of South Carolina.

Programme.

November 17th, Noon.

Address of Welcome—S. B. Sherrod, M. D., Gaffney, S. C.

Reply—E. W. Pressly, M. D. Clover, S. C.

The Care of the Child—I. W. Faison, M. D., Charlotte, N. C.

Some Phases of Life Insurance Work—T. A. Crawford, M. D., Rock Hill, S. C.

Result of Nine Months' Vital Statistics—J. A. Hayne, M. D., Columbia, S. C.

Medical—W. B. Cox, M. D., Chester, S. C.

Cystoscopy and X-Ray in Diagnosing Diseases of the G. U. Tract—R. H. McFadden, M. D., Chester, S. C.

Interesting Obstetrical Cases Occurring at Camden Hospital, Camden, S. C.—J. W. Corbett, M. D., Camden, S. C.

2:00 P. M.

Luncheon at the home of R. T. Ferguson, M. D.

3:00 P .M.

Subject Unannounced—F. A. Coward, M. D., Columbia, S. C.

Eye, Ear, Nose and Throat—J. P. Matheson, M. D., Charlotte, N. C.

Diagnosis and Treatment of Cholecystitis—C. B. Earle, M. D., Grenville, S. C.

"Twilight Sleep"—C. H. C. Mills, M. D., Charlotte, N. C.

Subject Unannounced—V. M. Roberts, M. D., Blacksburg, S. C.

Subject Unannounced—J. I. Barron, M. D., York, S. C.

Subject Unannounced—A. L. Little, M. D., Wilkinsville, S. C.

E. W. Pressly, Pres. Clover, S. C.

G. A. Hennies, Sec., Chester, S. C.

current literature

PEDIATRIC SITUATION IN EU-ROPE AND THE EFFECT OF THE WAR ON THE SAME.

By John Adams Colliver, A. B., M. D., Los Angeles.

OU have asked me to give you a resume of the podict in Europe, and the effect of the war on the same. In doing this, I will briefly confine my remarks to my own experience and observation, taking each place in turn, and pointing out the things which to me seem most characteristic.

London: My observation here is confined largely to Great Ormand Street Hospital for Children, and the children's wards in the University Hospital. The Great Ormand Street Hospital has the largest out-patient department of any of the hospitals I have visited in Europe. There is a regular post-graduate school in connection with the hospital, in which you can register in small classes for the outpatient work, or you can become a clerk to an assistant in the out-patient or to the visiting staff of the hospital proper. The clerks are expected to write up histories and also make physical examinations, and in the hospital to do at least part of the routine laboratory work. The amount of material in the out-patient department is so abundant, and assistants so few, that the examinations are necessarily in most cases somewhat superficial.

In taking the history of a feeding case, little or no attention is paid to the previous diet. You find history after history simply reading, "the child was off its feed." There is seldom any reference to the character of the previous feeding. There is little or no attempt at modification, but a great deal of sodium citrate is used in the milk. The children are practically all of very poor parentage, and convalescents in the hospital among the older children do better on bread with tallow "drippings," than they do with butter, because they were used to it before.

London has the most poorly dressed, poorly nourished, poverty-stricken children of any of the cities I have ever visited. As a result, they have the greatest number of malnutrition, and later, rachitic cases. The latter exhibited some of the most extreme bony deformities. After seeing so many such cases, I can easily understand why rickets is called "englishe krankheit.

In connection with the hospital outpatient department, there is what is called the "Casualty Department." This corresponds to our minor surgical department. Small operations, like removal of tonsils, adenoids, circumcisions, opening abscesses, are performed here. It is here that so many tonsil operations are performed by the Waugh enucleation method. It is rapid, clean, and complete, and with but little hemorrhage. I have seen Mr. T. Babbington Ward do as many as eleven, together with the adenoids, in less than an hour. Mr. Waugh's instrument is used in all these cases, and chloroform was the routine anesthetic.

There is no better place in the world to study rheumatism and its manifestations and complications, than in London. I was a daily visitor, and special student in Doctors Poynton and Still's clinic, and saw many rare rheumatic

complications. Doctor Poynton, who has made more of study of rheumatism in children than any other man in England, and the world perhaps, told me there is more rheumatism in London, than anywhere in England. He has done but little in the last few years on the bacteriology of rheumatism. Nearly all cases start, or are associated with chorea. The nodules, seldom seen in America, are very common. They are so large, that in many cases palpation is unnecessary. You can see them. The most common locality is on the elbows, the spinous processes, and sometimes on the tendons. times they stand out like grains of corn under the skin. These, Poynton considers as rheumatism in miniature. They are a bad prognostic sign, and nearly always associated with marked cardiac symptoms, endocarditis.

Closely related to rheumatism with its characteristic deformity, is Still's disease. More cases are seen here than anywhere in the world. These were practically all in Doctor Still's wards. They were being treated with radium. Sometimes it was thought an improvement was noticed, but it was only transitory, and it was agreed that no marked permanent benefit followed its

Other interesting things observed, were a great number of apparently primary pyelitis cases. There was also an epidemic of scarlet fever. I saw a number of rare cerebellar tumors with most interesting and characteristic symptoms operated by Mr. Waugh, with complete recovery.

A very unique feature of the London pediatric relation, was the meeting of the Pediatric Society at the Royal Academy of Medicine. At this meeting, each man presents his case written up in detail, with history, and physical findings. The cases are numbered with large numbers, and each member has a

printed history of the case before him. You go from case to case, like so many exhibits, and make your own examination or observation. Many of the cases are brought here for diagnosis. After spending an hour with the cases themselves, the children and parents are allowed to return home, and the society meets in the assembly hall, and discusses each case.

On the whole, English physicians are not so accurate in their diagnosis, and have a tendency to use more drugs than in other places.

Paris: An investigation of the Juvenile Court was made in every city of importance. This was all my time permitted in Paris. Many moral points of view, and the way the public looks upon illegitimacy, near-white-slave, etc., would, I am afraid, be somewhat shocking to many American court workers. For instance, girls working in stores are given leave of absence to give birth to an illegitimate child, and then taken back as soon as they are able to work. A new Juvenile Court law was passed, but has never gone into effect as yet.

Munich: The most striking thing about Munich, which seemed characteristic of all the German cities, was the great emphasis placed upon hygienic and prophylactic measures. For instance, all children must be vaccinated when they reach a certain age. The health department sends out a notice when the child reaches the age of two. The method of vaccination consists in making four minute incisions with a fine scalpel, which has been dipped in the virus. These knives are then sterilized, by being placed on a revolving disk, so arranged that each knife passes through a flame. This method of vaccinating leaves a very little scar, contrasted with the big English scar, and it was a very rapid and clean method. An officer in charge told me that the department had vaccinated as many as 600 in one hour. I saw one complication following vaccination, which consisted of large blebs in the mouth and throat, and edema about the uvula. This was accompanied by temperature, loss of appetite, etc. Their statistics showed that one case in 3,000 was affected in this way.

Pfundler's clinic in the university was well attended. Representatives were there from all parts of the world, except England. Pfundler's clinic is not large, and he has remarked that he had more assistants than patients. All courses are given in German.

One of the very important features of this clinic is the milk station. They not only gave out modified milk, but tea. One of the most unique milk bottle washers and sterilizers that I ever saw, was in this clinic. The apparatus consisted of a large wheel, about ten feet in diameter, which picks up the bottles, washes them inside and out, sterilizes them with boiling water, and deposits them again. In connection with the milk station, there is a normal infant clinic which tends to keep the child in sound health. The best one in America, compared to this, is found in Toronto.

I did not see or hear of a case of typhoid or malaria in Germany or Austria. It is authentically told, that only one case of typhoid was discovered in Munich in several years, and this was traced to a dairyman, who had it in his family a year before. The dairyman not only lost his business, but was imprisoned for nine years.

In our country we talk much of "swatting the fly." In Munich, and many German cities, they go beyond this, and starve them to death, by keeping the streets so clean that there is nothing for the flies to feed on.

Great care is taken of the infants and school children. All children are

well provided with clothing and shoes, and when the parents seem unable to do this, the government does it.

Another very important feature which preserves the health of the child, is a two-hour intermission from school at noon time, for eating and resting. An excellent and most needful thing to introduce in American schools.

Another feature which illustrates the endeavor of the Germans to preserve the normal, and educate the laity, is found in the workingman's museum. In this, you see models, diagrams, and concrete illustrations, showing the relative values of foodstuffs, necessitative cleanliness, and care of the child (including care of the eyes and ears), the most efficient and inexpensive way of making infants' beds and bedding, the preparation of foods, etc.; also information about every conceivable occupational disease, with its complicacations, and everything bearing upon the health of the child and parent. In addition to this, the government issues bulletins bearing upon health conditions, which are sought and read.

Vienna: My observation in this city is confined largely to Professor Pirquet's Kinderklinik in the University of Vienna, where I was a voluntary clinical assistant. I visited, however, St. Anne's Spital, and the Polyklinik. Professor Pirquet's Kinderklinik is one of the best equipped, and best organized children's hospitals in Europe. All of his assistants are able and enthusiastic workers. Each one is a specialist in some certain line of work. They all do research work, and have the scientific spirit so thoroughly fixed in them that very few of them encourage outside practice or consultation. When they enter they expect to devote their entire life to their particular line of work. Docent Schick could enjoy a big consultation practice, but he prefers the hospital work. With the exception of Docent, none of the assistants receive remuneration. They receive their room, but pay for their board. All voluntary assistants in the hospital must understand German, and agree to stay at least from six months to a year, before they can enter. In addition to the hospital and clinical work, all assistants are encouraged to carry on as much research work as possible.

There are two things which stand out most conspicuously in this hospital; one is the contagious ward, and the other the tubercular ward. Many of the contagious cases are placed in the famous glass "box." This consists of several rooms, separated by glass partitions running to the ceiling. Around the outside is a corridor, into which doors open from these rooms. where the doctor and nurses enter. The center corridor communicates with the outside, and is used only for visitors. In the "box" we find diphtheria, measles, gonnorrhea, scarlet fever, and other contagious diseases, side by side. In addition to the box, there are two other wards devoted to contagious diseases.

Tuberculosis: The tubercular wards in this hospital—the hobby of Professor Pirquet—are always filled. It is in charge of Assistant H. Kock. addition to the tuberculin treatment, great advantage is taken of the open air and sunlight. During the winter months, the children are wrapped up and kept on the roof, while in the summer they are in the same place, the majority of them with no clothes on, becoming as brown as Indians, and wearing nothing but a hat. I have seen marvelous results in tubercular peritonitis and adenitis, as well as in pulmonary tuberculosis.

Tuberculin is given twice a week. Before each time of giving each child has a Pirquet test, and accurate measurements and observations of the reaction made every two to four hours thereafter. A new place on the body is used with each injection. A diagram of the body is made, with a different number on it for each time the injection is given, e. g., if the injection is the 12th, it always goes in a certain place, and after about 20, they start over again.

There is no place in the world where the X-ray is more freely used as part of the routine examination. Practically all of the cases are screened, all pulmonary cases are screened and Roentgenographed, and all rare cases photographed in colors. The Pirquet tubercular cutaneous test is made on all children entering the hospital.

The epileptic ward, in charge of Assistant Janusche, formally a special student of Professor Meyer, has some of the most beautiful colored charts illustrating the effects of certain drugs upon the intensity, number of attacks, etc.

The same system of colored charts is used in nephritic and feeding cases. In the feeding cases, the different colors represent different ingredients of food. They are all fed on the caloric basis.

The psycopathic ward, which is run in connection with this Juvenile Court, well illustrates the necessity of accurate observation, and study of delinquents.

I have never, in any hospital in the world seen so many manifestations of syphilis in children; keratitis, epiphysitis, periostitis, etc.

It was during my stay in the Kinderklinik that the first children with icterus hemorrhagica were sent for operation to the Eiselberg clinic, Professor Ranzi operating. I remember one case with a red count of 800,000, increasing to a little over 4,000,000 within three weeks after splenectomy. As far as I know, all did well afterwards, with one exception. This one died of embolism about three months after operation.

A hundred per cent of the deaths are posted, making one of the best places in the world for pathological study, especially when coupled with courses of Erdheimer.

I was surprised to find Hamberger treating pulmonary tuberculosis by suggestion. He claimed that in many cases the temperature and all symptoms subsided.

Berlin: The most conspicuous thing in Berlin is the infant feeding of Finkelstein and Meyer. (My visit to Berlin was made about two months after the war had started.) At that time, Finkelstein had practically but one assistant—a lady physician. Professor Finkelstein's work then was necessarily hasty and superficial. Everything was more or less disorganized. A very interesting feature is a separation of the beds by a glass partition running up 5 or 6 feet, and some wards have cheesecloth or muslin partitions separating the beds.

The effect of the war on pediatrics had been marked. Everything has given place to war. For instance, over one-half of the beds in Professor Pirquet's Kinderklinik are turned over to wounded soldiers. Over half of the out-patient service was cut off. Before the war began, clinics were held morning and afternoon. All morning clinics were at once cut out. Only the most urgent cases were admitted to the hospital. Work was disorganized, superficial, hasty, and under great tension. Teaching and research has stopped. Practically all of the assistants who were doing such wonderful research work, are now devoting their energies to army and sanitary service. Assistants Goer and Kossovitz were compelled to stop their work on immunity of the new born, and Kossovitz is at present a prisoner in East Siberia. Goer, for the last three years was doing some work in diphtheria immunity, promised valuable Meyerhoffer's work on metabolism was stopped, and he devoted himself to army duties. Rache is at the front; his work on X-ray in tuberculosis and intestinal diseases has ceased. Assistants Nobel and Hecht were carrying on the most interesting and promising stage of their research work with the electrocardiograph. Both men are now at the front. H. Kock's special study of tuberculosis and tubercular meningitis, and work on intubation has stopped, although he is still at the hospital. Docent Schick is also in the hospital, although doing no research. His cutaneous diphtheric reaction and other equally important research work is discontinued. Professor Pirquet was about to give to the world (the result of his latest work), some new tubercular theory, but he, too, is now devoting a large part of his time to the wounded soldiers occupying his hospital.

Summary: Liverpool for orthopedics; London for malnutrition, rheumatism and its manifestations of chorea, endocarditis and nodules; Munich for hygiene, prophylaxis, health regulations and food stations, and preservation of the normal; Vienna for tuberculosis, syphilis, X-ray, pathology and research work; Berlin for infant feeding; America for practicability and some of the best of all.

If the war would stop today, it would take Germany and Austria more than a generation to regain the position they have so long held in the scientific world.

I believe one of the effects of the war will be a tendency to shift this scientific and research spirit to America.—California State Journal of Medicine, August, 1915.

BOOK REVIEW

THE CLINICS OF JOHN B. MURPHY, M. D.—Volume IV, Number V (October, 1915). The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume IV, Number V (October, 1915). Octavo of 228 pages, 56 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year: Paper, \$8.00. Cloth, \$12.00.

Some of the interesting articles are as follows: Carcinoma of Gum and of Submaxillary Lymph. Nodes. Excision of Cancer Bearing Area; Empyema of Pleural Cavity. Resection of Ribs, Sarcoma of Ovary-Ablation; Painful Stumps of Legs. Reamputation. Excision of Neuromata Neurorrhaphy.

The treatment of Carcinoma by Coley's mixed toxines is worthy of note. A discussion of Empyema, Resection of Ribs, in same, should be of particular interest to the general practitioner, as well as to the surgeon.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS.—Third Edition, Thoroughly Revised. Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, M. D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Third edition, revised. Octavo of 585 pages, 248 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$3.00 net.

The author of this book has become a classic writer in his speciality. This is the third edition and revision, and has been brought right up to date. The work on diagnosis and treatment of Syphilis has been re-written to conform to the present day valuation of the methods of treatment and remedies employed in this disease. There is a brief chapter on Rocky Mountain spotted fever, one of the most fatal of diseases with a photograph of the eruption. One of the most important features of any work on the diseases of the skin is the illustrations. In this book the author has appeared at his best. The illustrations are

highly creditable. The treatment is clear cut and to the point. The practitioner will get results if he follows the author's advice.

FRACTICAL MATERIA MEDICA AND PRESCRIPTION WRITING—WITH IL-LUSTRTIONS.—By Oscar W. Bethea, M. D., Ph.G., F. C. S., Assistant Professor of Materia Medica and Instructor in Prescription Writing, Tulane University of Louisiana Formerly Professor of Pharmacology, Mississippi Medical College, etc. Philadelphia. F. A. Davis Company, Publishers, English Depot, Stanley Phillips, London, 1915. Price, \$4.00.

This is a work along rather new lines for a Materia Medica. The book has been written by a Southern author, and is a creditable volume. The writer investigated a large number of drug stores, and the prescriptions of the physician on file, and found numerous instances of incompatibility and poor prescription writing generally. He has given the correct way in which the prescription should have been written. Nearly half of the book is devoted to comments on this phase of the physician's practice.

FRACTURES AND DISLOCATIONS-DIAGNOSIS AND TREATMENT.-By Miller E. Preston, A. B., M. D., First Lieutenant M. R. C., U. S. A., Surgical Examiner, Colorado State Board of Medcal Examiners; Formerly Police Surgeon, City and County of Denver, Instructor in Anatomy, University of Denver, and visiting Gynecologist to City and County Hospital, Denver, Colorado. With a chapter on Rontgenology. By H. G. Stover, M. D., Professor of Rontgenology, School of Medicine, University of Colorado, Member of American Rontgen Ray Society; Visiting Rontgenologist to City and County Hospital, St. Joseph's Hospital and Children's Hospital, Denver, Colorado. 860 Illustrations. St. Louis. C. V. Mosby Company, 1915. Price, \$6.50. The publishers claim for this work the following: That the illustrations as a whole are original and that there are more illus-

trations of recent fractures and dislocations

in this volume than in any other English book on this subject. Almost half of the illustrations have been taken immediately following the injury. In many cases not more than fifteen minutes have elapsed from the time the injury occurred until the photograph was made. This renders the illustrations especially valuable and unique. Also that all of Doctor Albee's work on Autogenous Bone Graft is given in this volume, and that this is not found in any other publication. Their claims appear to be pretty well substantiated by the volume itself.

DISEASES OF THE NOSE AND THROAT.—Diseases of the Nose and Throat. By Algern on Coolidge, M. D., Professor of Laryngology in the Harvard Medical School. 12mo of 360 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.50 net.

The idea back of this book is to be a guide to the student or pratitioner in his clinic work. By giving him a ready reference to the important details of examination, diagnosis and treatment of the upper respiratory tract. A commendable feature of the volume is the discussion of the reason for or against the more common operations, and other methods of treatment on both sides of the question.

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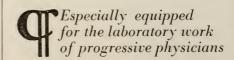
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The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 3, 1915, at the post office at Anderson, South Carolina, under the Act of March 3, 1879.

Annual Subscription, \$2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE.

J, H. GIBBES, M. D., Columbia, S. C.

PEDIATRICS.

WM. WESTON, M. D., Columbia, S. C.
OBSTETRICS AND GYNECOLOGY.

ATMAR SMITH, M. D., Charleston, S. C.

GENITO-URINARY DISEASES AND SEROLOGY.

M. H. WYMAN, M. D., Columbia, S. C.

SURGERY.

G. T. TYLER, M. D., Greenville, S. C. R. LEE SANDERS, Mayo Clinic, Rochester, Minn.

PUBLIC HEALTH.

J. LaBRUCE WARD, M. D., Columbia, S. C.

EYE, EAR, NOSE, AND THROAT. E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

This number of our Journal is devoted to diseases peculiar to the Genito-Urinary system, or that special branch of medicine know as Urology.

In the past when a physician confined his practice to this field of work he devoted his attention almost entirely to the treatment of venereal diseases, so naturally the profession, as well as the laity, have a tendency even now-a-days, to think of a Genito-Urinary worker as a "venereal specialist." The modern urologist, of course, does treat the acute and chronic venereal disorders, however, his greatest claim to exist as a distinct "specialist" is his ability to use, and to interpret the findings obtained from the use of the newer instruments and methods of diagnosing kidney and bladder disturbances. This information obtained by, and only by, the use of the cystoscope and ureteral catheter is so

necessary and indispensible to the proper differentiation of so many common every-day conditions until now throughout the several sections of our State we have men devoting their entire time to this one branch. In fact, there is a Urologist within one hundred miles of every doctor in South Carolina, therefore, the editors feel that it is worth the while of our readers to study carefully the articles in this number, not only to impress some of the possibilities of their methods of diagnosing, but also in a desire to aid the busy practitioner in solving some of his obscure cases. With these possibilities of a diagnosis at hand, it seems to us that to allow a patient, here in this State, to linger with some urological disorder without a thorough investigation can only be regarded as neglect on the part of the attending physician.

The Legislature—Medical School Inspection.

In a few days the Legislature will convene for its annual session and our Committee on Public Policy and Legislation has already taken up the matters entrusted to it by the House of Delegates as shown by the letter below. In addition we would urge every physician to lend his influence if necessary to secure the final passage of our bill in behalf of the defective school children of the State. The bill has passed the House and the second reading in the Senate, but even then the journey may be delayed and sidetracked if we fail to work for its final School Medical Inspection passage. still goes on by voluntary effort, but the need of the law is great, especially in the rural districts.

Columbia, S. C., Dec. 15, 1915. Dear Doctor:

The State Association begs that you interview your legislative delegation and ask their support for the following:

A law known as the Printers' Act Law has already passed in the following States: Connecticut, Indiana, Iowa, Maryland, Massachusetts, Minnesota, Michigan, Nebraska, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Washington, Wisconsin and Louisiana. The law reads as follows:

"Any person, firm, corporation or association, who, with intent to sell, or any wise dispose of merchandise, securities, service, or anything offered by such persons, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce in any manner to enter into any obligation relating thereto, or to require title there-

to or an interest therein, makes, pubdisseminates, circulates, places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated, placed before the public in this State, in a newspaper or other publication, or in the form of a book, notice, hand bill, poster, bill, circular, pamphlet, or letter, or in any other way, an advertisement of any sort, regarding merchandise, securities, services, or anything so offered to the public, which advertisement contains an assertion. representation or statement of fact which is untrue, deceptive, or misleading shall be guilty of a misdemeanor."

This law will be introduced by Mr. Alan Johnstone, of Columbia.

At the last session of the Legislature an optometrist bill was introduced by Mr. Lyles, of Orangeburg, licensing optometrists in the State and creating a separate board of examiners having no connection with the State Board of Medical Examiners. We desire to defeat this bill or else will introduce a substitute bill requiring that these men be examined on certain medical branches by the regular State Board of Medical Examiners.

State Board of Health.

The following health budget has been made out by the State Board of Health, and we urge the appropriations therein asked for:

| Proposed Health Budget 19 | 16. |
|-----------------------------------|------------|
| Bureau of Vital Statistics (main- | |
| tenance) | \$5,000.00 |
| Contingent Fund (protection | |
| against spread of diseases, the | |
| distribution of diphtheria anti- | |
| toxin, etc.) | 20,000.00 |
| Deficit (1915) | (?) |
| Stamps and Printing | 1,000.00 |
| Executive Committee (State | |
| Board of Health) | 2,000.00 |
| Salary, State Health Officer | 3,000.00 |
| Traveling Expenses, State Health | |
| Officer | 1,000.00 |
| Salary, Director of Laboratory | 2,500 00 |

| Salary, Bacteriologist, Laboratory | 1,500.00 |
|------------------------------------|-----------|
| Salary, Clerk, State Board of | |
| Health | 720.00 |
| Salary, Janitor, State Board of | |
| Health | 456.25 |
| Tuberculosis Camp and mainte- | |
| nance, erection of dining room | |
| and kitchen, male and female | |
| wards | 25,000.00 |
| Tuberculosis Camp (three free | • |
| beds | 1,000.00 |
| (The International Health Com- | , |
| mission will pay an equal | |
| amount from April 1st to Jan- | |
| uary 1st, 1917.) | |
| Salary, Assistant State Health | |
| Officer | 750.00 |
| Traveling Expenses, Asst. State | |
| Health Officer | 337.50 |
| Two Units for Intensive County | 331100 |
| Health Work | 3,600.00 |
| TIOMINI TOTAL LILLING | 0,000.00 |

\$67,863.75

A personal inspection of the State Hospital for the Insane shows a most praiseworthy change for the better in the institution along every line under the superintendency of Dr. C. F. Williams. We would deem it a calamity if any change in the administration takes place at this time. The appropriations asked for by the Board of Regents we urge be granted. Furthermore, we wish every member of the Legislature to make a personal inspection of the improvements being made there before any action is taken.

Medical College.

The standard of the Medical College

depends to a great extent upon a liberal support of the institution by the State.

Trusting you will bring these matters before your delegation and assure yourself of their support, I am,

Yours very truly,

J. H. Taylor, Chairman.

Christmas Greetings.

The Journal extends to every reader the heartiest good wishes for a joyous holiday season.

We have much to be grateful for this year, 1914 closed in impenetrable gloom for millions of people in the South. With a collossal war abroad, with our chief money crop greatly depreciated in the markets of the world, and the possibility of our own country entering the gigantic struggle, we were sad indeed one year ago. Today the picture is not altogether roseate, but decidedly improved.

The editor has had unusual opportunity to mingle with doctors in the period of stress and uncertainty alluded to, yet no word of complaint has he heard from these noble men who "go about doing good," in summer and winter, in sunshine and shadow, in sickness and sorrow. May you be permitted to relax a little, doctor, this Christmas of 1915, and enjoy some of the fruits of your arduous activities.

PERSONAL AND NEWS ITEMS

Dr. L. O. Mauldin, of Greenville, has returned from a visit to the Mayo Clinic, Rochester, Minn.

Dr. J. E. Watson, of Anderson, has returned from Harvard University where he specialized in Diseases of Children. Dr. G. A. Neuffer, President of the South Carolina Medical Association, delivered an address recently before the Pee Dee Medical Society on treatment of Leg Ulcers.

Dr. R. M. Pollitzer, of Charleston, was successful in a competitive exam-

ination for an Internship in the Children's Hospital, Boston. He will enter upon his duties January 1st.

The Anderson County Medical Society held an interesting meeting November 24th with clinics at the County Hospital. Dr. C. B. Earle, of Greenville, Chairman of the Council, was a guest of the Society.

The Colleton County Medical Society has been recently reorganized with Dr. L. M. Stokes, President, and Dr. W. S. Harvin, Secretary. The Society plans to entertain the District Association at Walterboro, January 19th.

The Executive Committee of the State Board of Health met in Columbia, Saturday, December 18th, with the following members present:

Drs. Robt. Wilson, Jr., W. J. Burdell, C. E. Gambrell, D. B. Frontis, Wm. Egleston, J. E. Dodson, W. M. Lester and E. A. Hines.

This was one of the most important meetings of the year owing to the fact that the annual report to the General Assembly came up for consideration.

It is gratifying news that the Board stands near the head of the list of Boards of Health of the United States in amount of work accomplished with the funds available.

The Board will ask for an appropriation for a woman's ward at the Tuberculosis Sanitorium.

Perhaps for the first time in its history there promises to be no deficit this year.

ORIGINAL ARTICLES

THE CLINICAL SIGNIFICANCE OF ALBUMINURA.

*By J. J. Watson, M. D., Columbia, S. C.

You will pardon me for briefly reciting the two tests that are most reliable in detecting albumin in urine, pointing out their falacies and how to avoid them. Fortunately the two tests check one another, for errors in one will be corrected by the other, when the urine is examined by both tests, which should always be done if a positive reaction is found with either. The tests referred to are boiling and Acetic Acid, and cold Nitric or Heller's test. The specimen examined should be clear; if turbid, the turbidity should be removed by

*Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

filtration, heating, or the addition of acid; depending on the cause of turbidity. In the case of a woman, albumen should not be reported except from a catheterized specimen, thus avoiding vaginal contamination.

Boiling and Acetic Acid Test

A perfectly clear test tube twothirds full of clear urine is held by the bottom and the upper inch of urine is boiled over a gas flame or alcohol lamp. If, after boiling a few seconds, the tube is removed from the flame and examined in a good light with a dark background (daylight is preferable to artificial light), any opalescence will be detected, if the precaution of having a dark background is observed. Of course, a cloud can be observed in any light; this cloud will be due to one or or more of three things: alkaline phosphates, calcium carbonate or coagulated albumen. If due to phosphates, the

cloud will disappear on addition of a few drops of Acetic Acid. If it disappears with effervescence, it was due to calcium carbonate. If, after the addition of the acid, the opalescence only partially clears up, does not change, or increases, albumen is most certainly present.

Hellers' Test.

This is made by allowing clear urine to trickle into a test tube held on a slant, into which has been added about a drachm of Nitric Acid. At the junction of the two fluids, a white ring is formed at once if any considerable amount of albumen is present. only a small amount is present, a few moments may be required before a ring is formed. The ring will appear also if the patient has been taking Balsam of Copavia or other similar drugs, but does not give the cloud with the heat or Acetic Acid test. Bence - Jones' albumosuria occurs without albuminuria, gives a ring by Hellers' test that disappears on heating and reappears on cooling. In concentrated urine urates will give a ring also: the ring will disappear on heating and urates do not give a cloud on boiling and the Acetic Acid test.

After we have satisfied ourselves that albumen is present, the next task is to determine what the albumen is due to. Is it due to structural changes in the kidney, pus or blood in the urine, febrile albuminuria, incompetent heart or is it orthostatic albuminuria?

Albuminuria due to structural changes in the kidney is always accompanied by the presence of tube casts. Therefore, a careful microscopical examination of a fresh specimen of urine, sufficiently centrifugalized, should be made. More than one examination may be required, for some cases of nephritis have very little

or no albumen and few casts. Other cases showing large amounts of albumen, numerous casts, and in acute cases, blood.

In deciding that a given case of albuminuria is nephritic in origin, other evidences should be looked for; the presence of polyuria, oliguria, oedema, cardio-vascular changes, hypertention retinal changes and the functional activity of the kidney as shown by phenol-sulphon-phthalein test. When the epithelium in the uriniferous tubules is damaged by disease, there will be a corresponding diminution in the Phthalein output.

Albuminuria With Renal Tube Casts and Pus or Blood.

When a large amount of pus is present in a specimen of urine, it can be detected by the eye; this can be confirmed by the addition of Liquor Potassae to the urine contained in the test tube. The alkali will cause the pus to coagulate and leave the urine clear. Small amounts can only be detected by a microscopically examined centrifugalized deposit. The amount of albumen due to pus or blood in a given specimen is usually small.

In what conditions do we have Albumen with Casts or Pus?

Pyelo nephritis, renal abscess, pyonephrosis, tuberculosis and stone in the kidney and certain kidney tumors.

Pyelonephritis may occur as an ascending infection from the lower urinary tract, with or without obstruction to the urinary flow from an enlarged prostate, stricture, tumors, etc, or it may be of hematogenous origin, the infection being carried to the kidney by the blood stream, and is not uncommon in fevers, suppurations in other portions of the body and during pregnancy.

Pyonephrosis or Dilatation of the Pelvis and Calices of the Kidney With Pus and Urine.

This occurs in kidneys that are suppurating and, at the same time, there is some obstruction to the passage from the kidney to the bladder. dition is most often caused by renal stone or tuberculosis, and is not an infrequent result of chronic cystitis following obstruction of an enlarged prostate or urethral stricture. If the obstruction is not promptly relieved, sooner or later the kidney is no longer a kidney but a pus sac, the same being of no use to the urinary system. Therefore, it is important that we recognize the condition and remove it before our patient loses one or both kidnevs.

Tuberculosis of the Kidney.

This may be secondary to some tubercular focus in some other part of the body. It may also be primary, usually affecting one kidney. There are few symptoms of the condition until the tubercles ulcerate into the calices and discharge the pus into the pelvis of the kidney; then marked symptoms occur. Persistent pyuria, lumbar pain, increasing frequency of micturition, polyuria and hematuria. These symptoms are not characteristic of renal tuberculosis, therefore, for a diagnosis, it would be necessary to recover the T. B. from the urine; failing in this resort should be had to animal inoculation.

Albuminuria Without Tube Casts.

This may be due to the urine containing pus, blood or hemogloblin. Urine containing pus and more than a trace of albumen, by either of the tests mentioned will be cloudy. It should be remembered that all cloudy urine does not contain pus. The cloud may be due to urates, phosphates, bacteria or pus. If due to urates the cloud

disappears on heating. If phosphates. it disappears on the addition of a few drops of Acetic Acid. Urine containing either bacteria or pus is not affected by either of these procedures. Blood in the urine sufficient to cause more than a trace of albumen is readily detected by its color. Sometimes clots are seen as soon as the urine is voided. Again the specimen may be smoky or red, depending upon the source of the bleeding. Hemoblobinuria gives urine a Port Wine color that would be impossible to overlook, and in our climate is only likely to occur with Black Water Fever.

We will now consider an interesting group of cases.

Those in which were the albumen removed from the urine, the urine would be normal. This is clinically of importance in that until the absence of casts had been determined, the absence of organic renal changes cannot be concluded. Even when casts are absent a trace of albumen may be the first evidence in elderly people of enlargement of the prostate, chronic interstitial nephritis or arterio-sclerosis, or in younger persons of chronic ascending nephritis, the results of such things as former gonorrhoea. repeated pregnancies, uterine prolapse or other displacements, chronic vesicle catarrh or urethral stricture. Albuminuria is not an infrequent finding in fever, the condition being known as febrile albuminuria. nearly every fever there is some cloudy swelling of the kidney, consequently most fevers are associated with albuminuria. As a rule the higher the temperature, the greater is the liability to it. Certain febrile conditions are more likely to be accompanied by albuminuria than others; Scarlet Fever and Diphtheria especially. The greater majority of febrile albuminurias recover completely.

Others seem to recover, but come under observation later with chronic nephritis.

Albuminuria may be due to incompetent heart. As a result of venous stasis from a failing right heart, from valvular disease, obstructive lung affection, such as fibroid lung, emphysema, myocardial degeneration, granular kidney, from other high pressure conditions, albuminuria is quite frequent. When there is no kidney complication the urine will be found free of casts and except in cyanotic conditions the blood pressure will not be Oedema commencing in the feet, dyspnoea and displaced Apex beat, absence of retinal changes, all point to the cardiac origin of the condition. In these cases, the Phenol-Phthalein test is of great value in determining whether the case is primarily cardiac or nephritic. If cardiac, the output will seldom fall below 30 per cent. in two hours, whereas, if nephritic, the output will seldom be over 20 per cent. in two hours.

Orthostatic Albuminuria is the name given to a group of cases in which albumen is present in the urine of children and young adults inconstantly; in whom there are no other symptoms of renal disease and no cardio-vascular changes, and who subsequently lose the albumen. The frequency with which this albuminuria is found in early life has been differently estimated by various observers. Ward, quoted by Dr. S. West, found on examining one hundren and twenty-six children attending Dr. Garrod's Clinic at Great Ormond St., London, that 24 and 6-10 per cent. of the cases had more or less albumen, but in only 7 5-10 per cent. was the amount appreciable. Clement Dukes, as a result of his experiences concluded that 22 per cent. of the school boys from ten to eighteen years old have albuminuria.

sult of examining 180 apparently healthy young men from sixteen to twenty-four years of age, I found eighteen cases of albuminuria; fourteen of these were carefully studied. None of the cases showed any evidence of ill health, cardio-vascular changes, hypertention or variations beyond the normal Phthalein output. Only one case showed tube casts. A small pocket of pus was found in a tonsil; this was evacuated and the albumen and casts These disappeared in one month. young men were at first examined in the afternoon between four and five o'clock after they had been practicing various athletic exercises. first urine voided in the morning was examined on three separate occasions for each one, and with the one exception mentioned, was found free of al-This, with the negative microscopical examination and the Phenol Phthalein test caused the cases to be placed in the orthostatic group. The diagnosis of orthostatic albuminuria should not be made in a person of more than thirty years, since granular kidney often causes slight and inconstant albuminuria. The diagnosis should not be guessed out, it should be worked out carefully. A person between fifteen and thirty years who has albuminuria after exertion or exposure to cold, but absent after rest in bed, and when present is not associated with renal tube casts, or with signs of cardio-vascular disease, or any other condition which should be detected by physical examination, and who excretes a normal amount of Phenol Phthalein, almost certainly has orthostatic albuminuria, which needs no treatment, and is not indicative of any underlying disease.

THE DISEASED KIDNEY—INFECTIONS IN GENERAL, WITH SPECIAL REFERENCE TO ACUTE PYELO-NEPHRITIS COMPLICATING PREGNANCY.

*By M. H. Wyman, M. D., Columbia, S. C.

NLY two things are necessary for any organ to become infected; a lowered resistance and a pathogenic micro-organism. But, on account of the peculiar function of the kidneys, being organs which constantly excrete disease producing germs, here only a lowered local resistance is necessary for the development of an infection. In other words, the micro-organisms circulating in the blood furnish the agent, the stasis of the urinary stream furnishes the opportunity, and the alterations of the kidney structure, caused by disease or trauma, furnish an ideal culture media. Again, the predisposing causes acting to decrease the vitality of these urinary organs, are, conditions which interfere with their function of completely ridding themselves of urine laden with poisons and germs. examples: mechanical obstruction. such as stricture of either urethra or ureter; prostate enlargment; ureter or kidney calculi; a twisted pedicle or pressure on same, as from a pregnant uterus, or tumor; alterations in its tissue by trauma, or previous nephritis; stasis in circulation caused by displacement, etc. Of course, these organs suffer in any general, debilitating, constitutional disease, with high toxic febrile reactions, as Scarlet Fever, Tonsilitis, etc. In this connection, Koll, of Chicago, and Barber and Draper, of New York, in papers on animal experimentation, read before the Genito-Urinary section of the A. M. A., held at Atlantic City, in June, 1914, convinced us that renal infections are rarely, if ever, urogenic (ascending from bladder), but are practically always hematogenous (from blood stream), and are only dependent upon a lowered resistance caused by some abnormality of any part of the urological tract.

In the great majority of these cases the colon bacillus is the offending organism, and, as Keys says, "Doubtless every attack of constipation sends myriads of these intestinal germs through the kidneys," and from every infected wound, tonsil, tooth, gall bladder, appendix, furuncle boil, etc., many pyogenic cocci are eliminated with the urine. Tubercular renal infections are always, it is believed, secondary to some other focus. However, it is not for the overworked general practitioner to decide the mode of infection, or even the germs concerned, but he must know suspicious symptoms, the possibility of clear-cut diagnosis: and what treatment is indicated.

Kidney infections are usually divided under three groupings: Pyelitis, meaning a simple infection limited to the pelvis of the kidney, which does not imply interference with function of the organ. Pyelo-nephritis, or a pyelitis plus a nephritis, with usually a marked interference of functions, but not frequently any destruction of tissue. Pyonephrosis, or pus kidney, with destruction of tissue and abscess formation, these abscesses may be, in an early involvement, small and multiple, later they frequently coalesce into a large pus sac, especially if the ureteral drainage is cut off.

Again, I will not consume your valuable time with needless pathology, or

^{*}Urologist to the Columbia Hospital and the South Carolina Baptist Hospital, Columbia, S. C.

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21st, 1915.

with differential symptoms, for symptoms of any of these infections are not constant, but vary from a mild febrile reaction, with a few pus cells in the urine, to the very ill patient with chill, marked septic temperature, high leucocyte count, a rapid pulse etc., who is very soon overcome with the severe toxemia. In some cases, especially, when early and mild, the symptoms are just those of any infection. You may at times be misled, suspecting a gall bladder or an appendix; frequently, however, the patient will complain of pain, especially in the back at the costo-vertebra angle, which, in some cases, radiates to the front. Palpation may help by showing enlargement and tenderness. Again, as usually occurs in tubercular infections, hematuria or bladder symptoms of frequent and painful urination may first cause the unfortunate individual to seek medical advice. In many cases, it is only by exclusion that the true condition is first suspected. The most important, and positive symptom, or sign, is, of course, pus in the urine, and how much valuable time and untold suffering could we save if every specimen of urine was examined, microscopically for pus.

Under diagnosis we have certain methods of completely clearing up and determining exactly what urological organs are normal or diseased. First: a catheterized sterile specimen of bladder urine is studied carefully, chemically and microscopically; and usually, to isolate and determine the infecting organism, we inoculate culture tubes and guinea pigs. Through the bladder catheter the combined function of both kidneys is determined by injecting intravenously one cc. of Phenol-Sulphone-Phthalein, allowing two 15-minute specimens of urine to collect from the time of appearance of the

dye. The percent of dye is estimated by a very simple colorimeter.

The above examination gives us the total function of both kidneys combined, and only tells what elements, normal or pathological, are coming from the entire urinary system. If there are abnormal substances present, such as pus, then by the use of the cystoscope and ureteral catheters, we can locate the exact source and nature of the disease.

Again, it is not sufficient to determine that one kidney is infected, but how badly is its function impaired? What is its pathological lesion? What offending micro-organism is present? What treatment is indicated? nephrectomy is considered, we must prove, not only, the presence of another kidney, but one, which is normal, and compensating for its diseased fellow. By means of the cystoscope, we carefully observe and study every part of the bladder for abnormal conditions, such as ulcers, tumors, calculi, prostatic obstructions, etc. Having thus proven or excluded the bladder as the possible source of the infection, we then locate the ureteral orifices and pass small No. 6 and No. 7 French catheters up these organs, which allows a flow of urine from each kidney separately; this separated urine is studied chemically and microscopically, to determine what elements come from each side. The catheters are allowed to remain in the ureters while the comparative function of each kidney is determined, again using Phthalein intravenously; for, by this method, the drug appears, per ureteral catheters, very rapidly, only two to four minutes being required. After collecting two 15-minute speimens from each side, the percentage of the dye is estimated and we have thus proven the differential, functional, activity of each kidney individually.

You see how possible it is, by the use of these newer instruments and methods, to make a positive, clear-cut diagnosis in every case. We, who limit our entire time, thoughts and energies to this field of medicine, contend that an exploratory operation is practically always unnecessary, and further claim that our branch is the most exact and scientific of any of the so-called specialties.

From a treatment point of view, especially with medicinal agencies, we are not quite so dogmatic in our assertions, but even here much can be done provided the correct diagnosis has been made. There are no arbitrary lines or rules to be laid down in the management of any case, each patient's physical condition must be considered: but as a general rule, however, an infection limited only to the pelvis, meaning a true, simple pyelitis, without serious interference with kidnev function, or other demonstrable abnormal manifestations, as calculi. tumor stricture, or twisted ureter, etc., it is safe to try for a reasonable time, a simple, and less radical line of treatment, than surgical interference. First, the general health of the patient should be improved by hygiene and a nutritious, non-irritating diet; any focus of infection, as tonsil, teeth, gall bladder, appendix, boils, or constipation should be sought out and corrected. Under medicinal remedies. Urotropin, or other formaldehyde,gas, liberating drugs, stands supreme, but, remember the gas is only liberated in a acid urine and should be concentrated; at Johns Hopkins Hospital 15 grains of the drug (Urotropin) is given every four hours, with a small amount of water, using acid sodium phosphate when necessary to render the urine acid. After a few days it is well to give the urinary system a complete rest from this concentrated acid

media, so, say for twenty-four to fortyeight hours, all medicine is discontinued and forced water is substituted. Lavage the kidney pelvis with Silver Nitrate solution, through a ureteral catheter, leaving same in place for several days for drainage, together with the use of autogenous vaccines, often, gives brilliant results in a few select cases. All of these methods should, of course, be tried, before, more radical procedures are undertaken. But given a case where the urine is loaded with pus and other evidences of infection, which has failed to respond after a reasonable trial with these simpler methods, the kidney function is greatly and constantly reduced, and the Callargol Xray picture perhaps reveals either a diliated pelvis, or loss of tissue from abscess formation, surgical interference is indicated, especially where symptoms are at all distressing. Of course, the infecting organism should be worked out, and again, as a broad rule, it may be safe to temporize, to a reasonable degree, with any infecting germ except the tubercular bacillus, so when this organism is demonstrated, an immediate nephrectomy is imperative.

Surgery of the kidney includes decapsulation, with attempted fixiation, removing infected calculi, drainage of pelvis, or abscess foci in the parenchyma, but usually, when a kidney is surgical, nephrectomy is the only positive method of giving permanent relief.

Acute Pyelonephritis complicating pregnancy is fairly frequent, ofttimes overlooked, very important in its end results, and should be of great interest to the general practitioner. To give you an idea of the frequency of this complication, I have seen a case a month for the last seven months. The pregnant uterus, increasing in size, pressing on the large intestine causes

a stasis, furnishing from this source the infection, usually the colon bacillus, from the same cause, increasing pressure from the enlarged utery on the ureter, the free flow of urine through this ureter is also impeded; and by back pressure the vitality of the kidney is lowered, thus supplying the second requirement of any infection, a fertile receptive field to grow. So, you see, added to the other dangers which a pregnant woman is exposed, we have, in this condition, a complication which is serious in the end results, and, at times, even causes immediate death. Do not take it for granted that every pain in her side is natural to pregnancy, and that the child is to be a good football player, on account of what you have supposed, was his ability to kick, but by a careful microscopical examination of catheterized, centrifugalized urine, you will at once determined the true cause of both pain and fever. The treatment varies; simple urinary antiseptics is, at times, all that is indicated, but not infrequently it is advisable to drain the kidney by means of the ureteral catheter, leaving it in place several days, or emptying the uterus of its contents, thus either overcoming or removing the cause; but occasionally, to save the very life of the unfortunate woman, it is imperative to sacrifice the infected kidney. This severe type of case is very ill from the beginning, and is usually ushered in by a chill and other evidences of a severe infection and toxemia.

One or two cases will emphasize and illustrate these points, showing the absolute necessity of a careful, microscopical examination of catheterized, centrifugalized urine.

This Case 1, referred by Doctor Harmon, of Columbia. History taken December 12, 1914. Mrs. W. R. T., a young woman; age 27, with two living children.

Complaint.—Pain in back and right side, frequent and painful urination.

Family History.—Negative for tuberculosis, cancer, etc.

Past History.—Had malarial and typhoid, but denies having had diphtheria, scarlet fever or other highly toxic disturbances.

Present Illness. — January, 1914, while five months pregnant, she first noticed bladder symptoms of frequent and painful urination, which her doctor thought was one of the natural ailments of a woman with an enlarging uterus. One month later, there developed a pain in her right side and back, at costo-vertebra angle. She then consulted a prominent surgeon, of South Carolina, who diagnosed her condition as Pyelitis, because there was pus in the urine and pain in the right side; he neglected, however, to take advantage of the newer methods of diagnosis, not even having the total function of the kidneys estimated. The unfortunate lady was sent home to complete her last four months of pregnancy in misery, being assured that her condition would clear up at the end of that time. Two months after the baby was born June, 1914, she was still an invalid suffering with right side and bladder. Her former consulting surgeon not being accessible, she visited another able man, and I say able because I have seen this doctor work out cases, dozens of times, and I know him to be good. This second operator opened our patient's abdomen anteriorly, palpated for both kidneys (of course, removed the appendix), and told the lady's husband, who is also a doctor, that his wife had only one kidney. Remember this was less than a year ago. She went home and suffered agony (let me add in parenthesis right here, that I am not seeking to belittle these surgeons, for I have the highest confidence in both, but it is a deplorable fact and unfair to our patient if we do not give them the advantage and benefit of everything possible in a way of diagnosis of treatment, probably permanently contracting the morphine habit.) December, 1914, she was brought to Columbia with her former symptoms of pain in back and bladder, and in addition had an easily palpable tumor just beneatth the costal margin on the right side. The case was at this time referred to me for examination.

Examination.—Patient was given three glasses of water, and in twenty minutes bladder was catheterized with a glass catheter; the urine was acid, contained a trace of albumen, no sugar, great many pus cells, no casts and a few slightly motile organisms. These germs were worked out on culture media and were proved to belong to the colon group. Stained specimens and guinea pig inoculation were negative for the tubercular bacilli. One cc. of Phthalein was given intravenously. It appeared in the urine per bladder catheter in nine minutes.

First 15 minutes 33 per cent was recovered.

Second 15 minutes 22 per cent was recovered.

Total 55 per cent for half hour.

Next day the patient was cysstoscoped; the bladder showed only a marked subacute cystitis. Both ureters were catheterized. From the right kidney, through the ureteral catheter, no Phthalein was recovered, but a large amount of watery pus was manifest. From the left kidney the Phthalein appeared in eight minutes. A total of 52 per cent was secreted for the two 15-minute periods. You note 52 per cent from the left alone, of the 55 per cent recovered the day before from both kidneys. Urea from right nothing, from the left one and twotenths per cent. Diagnosis was pyonephrosis of the right kidney with a normal compensating kidney on the left side. Operation was nephrectomy. The kidney showed an enlargementwith many abscessed forci, a number of which had coalesced and communicated with the pelvis.

Here are some of the awful end results of this neglected diagnosis: First, dangers and difficulties of the operation were greatly increased by the size of the Pus Kidney and adhesions to same; one year of unnecessary suffering and needless agony, and our unfortunate mother is probably a permanent "dope fiend," and possibly an invalid for life, of little use to her husband and two dependent children.

Just one other point: A six month pregnant patient was brought to the Columbia Hospital to Doctor Guerry with the diagnosis already made, of a very acute appendicitism, demanding an immediate operation. The patient was at once put on the operating table. Doctor Guerry, on his examination, found every local sign and symptom of acute appendicted involvement, but noted that the woman lacked the usual pinched facial expression frequently very manifest in these cases. As is usual, he requested an immediate microscopic examination of the patient's urine. Urine, per glass catheter, was positive for albumin, casts and pus cells. Operation deferred half an hour while the intravenous phthalein, functional, kidney test could be estimated. The per cent of the dye recovered in the half hour was only 25 per cent, while normally it should be 69 to 80 per cent. She also had a marked leukocytosis.

Diagnosis was acute pyelo-nephritis complicating a six month's pregnant uterus.

What Treatment Was Indicated?

On account of the high septic fever (the shape from traveling), the rapid pulse, high leukocyte count, etc., it was decided expedient to defer the differential examination of each kidney separately until next day. However, next morning the patient was decidedly more toxic, therefore, something radical in the way of relief was imperative at once. The indication for treatment was clear. Something must be done to rid the system and kidney of its infection. Should the kidney pelvis be drained per ureteral catheter? Should the child be sacrificed by emptying the uterus thus letting the kidney act freely, or did the seriousness of the condition demand nephrectomy? Drainage from ureteral catheter is only temporary to bridge over an emergency; nephrectomy was not considered because the differential function of each kidney could not be worked out, by cystoscope and ureteral catheter, on account of the rapidly increasing septic condition of patient. The last resort was therefore a therapeutic abortion, which was immediately done. Within twenty-four hours after delivery of fetus, the patient was entirely relieved with regard to fever, etc. She went home at the end of two weeks with urine and functions from both kidneys absolutely normal.

It was only by the microscopic examination of a catheterized, centrifugalized, specimen of urine from this woman, that saved her from the knife, and possibly death.

I will leave it with you gentlemen, are not these examinations imperative?

PYELITIS—ITS DIAGNOSIS AND TREATMENT.

*By William R. Barron, M. D., Columbia, S. C.

PYELITIS is an acute or chronic inflammation of the pelvis of the kidney, usually due to the irritant action of the Toxines or Endotoxines of bacteria.

The predisposing causes for bacterial invasion of the kidney pelvic mucosa are: lowered body resistance, constipation, pregnancy, infectious diseases, trauma, irritant action of drugs, displacement of kidney; obstruction from below, such as enlarged prostate, vesicle stone or tumor or tuberculosis, pressure on ureter from adhesions or growths, and stone in kidney.

The exciting causes are bacteria. (The most commonly found being Bacillus Coli, Staphylococcae, Streptoccae, Proteus Vulgaris, Bacillus Pyocaneus, Tubercle Bacillae, and sometimes Gonococcae are found.)

The modes of infection are, haematogenous, lymphangious, ascending, and infection by contiguity.

Infection through the blood stream is the most common.

The opinions of individual investigators in the genito-urinary field, as to the occurrence or non-occurrence of ascending kidney infections, seem to be as diverse as the proven clinical cases are rare.

It has been experimentally proven that ascending infection cannot take place within the walls of the ureter, except under pathological conditions of the ureter, and this pathological condition must be sufficient to incapacitate the normal action of the ureteral valves and walls.

^{*}Read before the South Carolina Medical Association, Greenwood, S. C., April 21st, 1915.

It is important to remember that symptoms in Pyelitis are often absent. There is sometimes frequent and painful micturition due to a secondary cystitis and the physician is consulted for this.

Sometimes pain is present in one or both loins, and when calculus and moveable kidney occur with pyelitis, the pains are more colicy and intense.

Chills, fever, anorexia, and nausea may or may not occur.

Cysto-pyelitis, with exacerbations and remissions and a typical fever curve with very acid urine is characteristic of Colon-Bacillus infection.

When enough absorption is taking place to produce a rise in temperature, the temperature curve is usually that of sepsis elsewhere in the body, with morning remissions and evening elevations.

Tenderness on palpation may or may not be present, depending on the severity of infection and the occurrence of drainage; but when tenderness is present, it is greatest at the costo-vertebral angle.

I have recently seen two cases in which occurred typical attacks of renal calculi passing down the ureter, and in which, with the aid of the Xray, I could not confirm a diagnosis of stone, but did confirm the diagnosis of pyelitis.

I feel quite sure the temporary blocking of the ureter by pus or the turgesence of the ureteral mucosa produced these symptoms.

Pyelitis is often diagnosed on one side when we are catheterizing the ureters for symptoms relative to the opposite kidney. One of my recent cases well illustrates this: A young married woman had an attack of renal colic on Saturday night; I was called in consultation on Sunday and found macroscopically and microscopically much pus in a catheterized bladder speci-

men. I catheterized ther ureters on Monday morning, obtaining from the left side normal urine with many red blood cells and a phthalein output of seventeen and one-half (17½) per cent. Just a little more than half the phthalein output from the right side. The phthalein took ten minutes to appear on the left side. On the right side the urine showed many pus cells, no blood cells, no casts, no bacteria microscopically, and the phthalein was thirty-two and a half (32½) per cent. The phthalein showed in three minutes on this side.

She had a second severe attack on the left side on Tuesday night and was Xrayed on Wednesday, with negative findings, except a slightly prolapsed right kidney.

I recatheterized her on Tuesday and found the phthalein equal in time of appearance and amounts on both sides. There were no red blood cells from the left side this time, but the same findings were still present on the right as in the first catheterization. I then made a diagnosis of rightsided pyelitis, and her prompt response to pelvic lavage has doubly confirmed my diagnosis.

It is impossible to accurately diagnose pyelitis without ureteral catheterization, but a probable diagnosis can sometimes be made from clinical symptoms and catheterized bladder specimens. It should be the routine of every diagnostician to examine catheterized bladder specimens tained under aseptic conditions, and should pus cells show constantly in these, a cystoscopic examination and ureteral catheterization should done to tell where the pus is coming from.

When my pyelitis cases are clinically well, I always insist on them returning for repeated examinations of catheterized bladder specimens.

We do not pay enough attention to the early diagnosis of pyelitis and instead of getting these cases in time for pelvic lavage and internal therapy to cure, we get them when the pyelitis has most often led to a pyelo-nephritis or pyonephrosis.

In differentiating pyelitis from pyonephrosis we would find a normal phthalein in pyelitis and a reduced phthalein in pyonephrosis. Pyelitis would give us pus without casts, pyonephrosis would give us pus and casts. The Xray would show normal size kidney in simple pyelitis and most probably, an enlarged kidney in pyonephrosis.

Pyelo-nephritis would show a diminished phthalein, hyaline and granular easts and pus cells.

Appendicitis may show the same differential and total blood counts that pyelitis shows, and the pains produced by each are often quite similar. The right rectus is not so sensitive and rigid in pyelitis as in appendicitis. We recently had a case of pyelitis with the blood picture and clinical symptoms so indicative of appendicitis, that we had her appendix removed, finding it perfectly normal and later diagnosed pyelitis. In this case the slight rigidity of the right rectus muscle made me doubt the involvement of the appendix.

The history helps us much in making a differential diagnosis here and ureteral catheterization, where practical, would solve the diagnosis in most cases.

Abscess of the liver and perinephritic adscesses are sometimes difficult to differentiate from pyelitis, clinically. Ureteral catheterization would clear the diagnosis here.

Pyelitis can develop by contiguity from liver and perinephritic abscesses and this would complicate a differential diagnosis. Given a case, when ureteral catheters are passed, showing pus, bacteria on smears or culturally, showing normal phthalein elimination, no casts, with or without clinical symptoms, I would diagnose simple pyelitis.

Treatment.

In frebrile cases we should insist on rest in bed, daily sponge baths to promote maximum skin activity, fresh air, good personal hygiene and a nutritious diet containing a minimum amount of proteids and condiments.

Autogenous vaccines are very help-ful in most cases.

My favorite drugs in these cases are Pyo-Atoxin and Hexamethylen-Tetramin.

Hexamethylen is often not given in sufficient doses and if we are to obtain any results from its use we should give from fifty to one hundred and fifty grains daily.

Where a prompt subsidence of clinical symptoms and pus in the urine does not follow from rest, diet and these drugs, pelvic lavage should be done.

For pelvic lavage the following drugs are used; Bichloride of Mercury in strengths of from 1-20,000 up to 1-10,000. Formaldehyde solution from 1-8,000 up to 1-3,000 and nitrate of silver in from one-half ($\frac{1}{2}$) per cent up to five (5) per cent solutions.

The other silver salts, such as Argyrol have been used, but there is no especial advantage that they have over silver solutions. I have used only Formaldehyde and silver in my work, and prefer the silver.

In conclusion, let me say, that there is yet much to be learned about the treatment of pyelitis, but the successful treatment of these cases depends upon the early diagnosis of them.

ENDOSCOPY: ITS VALUE IN URO-LOGIC PRACTICE.

*By Chas. A. Mobley, M. D., Rock Hill, S. C.

T IS not the purpose of this article to make extravagant claims for the endoscope as a diagnostic aid or to give it more than its just deserts as a means of making the urethral canal more accessible for treatment.

From my observations in various other clinics it seems that cystoscopy is given the place of prominence and but scant attention is given the urethroscope. This, to my mind, is not as it should be. The urologist who is not skilled in the use of the open and water dilatation endoscopes is certainly handicapped thereby and cannot get the results of the man who is familiar with his instruments, and also with the parts to be observed, both in a state of health and when showing the various pathologic changes.

The many operative procedures called for in the urethra, through the endoscope while they seem very trivial when compared with a prostatectomy or a nephrectomy, are just as necessary if we appreciate our patient's peace of mind and his gratitude.

There is nothing more distressing to a patient than a sexual impotence, caused many times by a diseased condition of the posterior urethra, especially a diseased verumontanum and every genito-urinary surgeon knows what beautiful results are achieved here by treatment to the diseased part. The patients virility returns and with it is peace of mind, his vague neurasthenic symptoms disappear and he is again a healthy normal human being.

With the advent of the high frequency currents the scope of useful-

*Genito-Urinary Surgeon, Fennell Infirmary.

ness of the endoscope was broadened.

Pappillomas, adenomas, cysts, etc., of the urethra are easily destroyed without pain or hemorrhage, and small prostatic obstruction such as usually call for a "punch" operation are now being successfully removed. Most endoscopic operations are very tedious and trying to the eyes and nerves of the operator. The parts operated upon are so minute that it is sometimes very hard to do just what we wish. I think it is infinitely more difficult to destroy a few cysts of the posterior urethra with high frequency, for instance, than it is to catheterize the ureters. You do not wish to destroy any healthy tissues nor to cause your patient pain, while at the same time you wish to do a radical destruction of the diseased area. To do this certainly requires patience and a good deal of manual dexterity.

The water dilation urethroscope has shown us that we have been overlooking many diseased conditions of the posterior urethra, and I think an examination should always be made with it, when indicated before using the open tube for operative or treatment work. Just as you would use your observation lens system in cystoscoping a bladder of whose condition you were ignorant, before attempting anything with your operating or catheterizing cystocope.

The urethroscope is used, or should be used much oftener than the cystoscope as its use is called for in a great many more instances. This adds to its value. I believe it should be a matter of routine to endoscope our gonorrheic patients at time treatment is discontinued so that we may not overlook a beginning soft or hard infiltration of the urethra. If such a condition is overlooked a stricture of the canal by this connective tissue is the inevitable result. Of course the ureth-

roscope should not be used so long as there is any evidence of infection unless in the case of a suppurating gland or follicle which calls for incision through the endoscope.

Instruments.—The old type of open urethroscope left much to be desired as a large portion of the pathology of the posterior urethra and vesical neck were overlooked altogether. It is only with the water dilatation instrument that a small delicate papilloma is rendered visible, or that a true picture of many pathologic changes are obtained. It is astonishing the multiplicity of symptoms the smallest lesion of the vesical neck or posterior urethra can cause, being similar in this respect to the symptoms induced by a small laceration of the cervix uteri. Where again the symptoms are out of all proportion to the lesion causing them.

After recognizing the diseased conditions with the water dilatation instrument the treatment is most often easier to apply through the open tube. So that both types of instruments are necessary parts of our armamentarium.

In conclusion I would like to say that we should always satisfy ourselves of the condition of the urethral even though ample cause for the patient's symptoms are found elsewhere as in seminal vesicles, prostate, bladder or kidneys. Otherwise we will often overlook conditions that call for treatment and can not hope, where such is the case, to obtain the best results.

Conclusions.

- (1) Too little importance is apparently attached to the use of the endoscope.
- (2) Endoscopy is equally as important as cystoscopy.
- (3) For a correct interpretation of the conditions to be found within the urethra both the water dilatation and the open tube are necessary.

A PLEA FOR THE MORE THOR-OUGH EXAMINATION OF UROLOGICAL CASES.

*By E. Cornish Baynard, M. D., Charleston, S. C.

THE day is not far distant when the practitioner who attempts to the practitioner who attempts to class of cases, at the bedside by conclusions, logical or otherwise, based upon the symptom-group as enumerated by the patient and elicited by the ordinary methods of physical examination will be numbered among those of the past.

Science is daily becoming more exact and demanding more exact methods of diagnosis in every field of medicine and surgery, not however, as a substitute for the time-worn and worthy methods which have stood us such good stead in the years gone by but as an addition thereto, in order that we may base our conclusions in a given case upon a more firm foundation.

The time of the "Snap shot" diagnostician is done, and it is well for us all to bear in mind while striving to perfect ourselves in those methods recently discovered or aspiring to those yet unborn save in the minds of the selected few, that those methods which have so well stood the test of time really represent the foundation upon which a superstructure composed of the newer methods is to be added in the effort to build a correct diagnosis.

During the last few years great strides have been made in the field of Urological diagnosis, and instruments have been added to the armamentarium of those doing this class of work which have very materially increased

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the preciseness and importance of the findings obtained.

How much would not have the men of only a few years ago given to have been able to gather the urine synchronously but separately from each kid. ney; to have been able to see a stone in the bladder and to have not been compelled to make their diagnosis by those symptoms formerly considered characteristic of that condition; to have been able toXray the pelvis of the kidney, and by its shape, etc., diagnose Hydronephrosis, Tumor and various other conditions; to have been able as we are today to some extent, to determine the functional value of one or both kidneys by means of the various functional tests now at our command?

It is possible to enumerate advance after advance that has been and is even now being made, but the object of this paper is not to lay stress on any advances made, but to call attention to the fact that in the glare and splendor of these recent achievements we are too prone to let fall by the way-side too much of our early training in the art of diagnosis.

In the mad rush to perfect ourselves in the use of some special technique or device we are too easily led away from the old and tried friend to make the acquaintanceship of the new, and the fact that I wish to most forcibly emphasize is that the happy medium can be attained only through the introduction and combination of the new, with the old accompanied by a thorough knowledge and understanding of the advantages and shortcomings of them both.

We have been to some extent commencing at the wrong end, applying first the newer methods, hoping in this way to arrive at our destination without the trouble of having to wade through the journey prescribed by the older technique, and, in the event of a failure to then return humbly to our starting point to seek the new path whereby we are able to get out of the woods that have so suddenly and completely surrounded us.

It is, in a way, comparable to the old adage of putting the wagon in front of the horse, or to express it urologically, first cystoscope your patient and then obtain his history.

We should, and by we I mean all of us, the general practitioner and the specialist, in every case commence at the bottom and work up, starting always with a careful, thorough and systematic history, not the history of the present illness alone but a full account of the patient himself and of his immediate family, encouraging him to talk about himself in his own way, and on several occasions if time permits. A careful analysis of the information thus obtained will oftentimes bring to light important points which would otherwise be entirely overlooked. I have heard more than one distinguished diagnostician make the statement that if he was compelled to choose only one of the various methods of diagnosis in preference to all others he would unhesitatingly choose the history of the patient.

A thorough physical examination of the patient himself should be the next step after having made a written copy of the history obtained. He should be thoroughly examined from head to foot, his chest and abdomen receiving especial care and attention for how important, for example, it is for us to know in a case of suspected tuberculosis of the kidney whether there exists or not a focus of tuberculous disease elsewhere.

The bladder should be catheterized to ascertain its capacity, its irritability and the absence or presence of residual urine; the urethra explored for stricture or obstruction, this being especially important to the out-of-town practitioner who intends referring a case for cystoscopic examination; the rectum examined with gloved finger, especially noting the size and consistency of the Prostate and vesicles; the urine should be collected in twentyfour hour amounts in a sterile container and not just a chance accumulation should undergo a most thorough chemical and bacteriological examination; the blood should be made to share its part and every method of known value in a general examination should hold its regular place in our routine examination of every patient.

After exhausting, in this our search for truth, all the methods of diagnosis known to the general practitioners we should then and only then fall back upon those diagnostic advantages which we possess as specialists, in this way holding in reserve a detachment of heavy artillery which, when needed, will come to our rescue and deliver us from the enemy that threatens to overwhelm us.

To summarize: Examine every patient in such a way that not simply a confirmation or exclusion of the suspected urological condition is made, but in such manner that we are also satisfied that there exists no pathological condition other than urological in the patient under observation.

In other words, we should endeavor to outlive the reputation that the uroiogist sees nothing in a patient but a urological condition; a gynecologist a gynecological one; a surgeon a surgical one, etc., and the only way possible to overcome this daily accusation is to make a truly thorough examnation of our patients, and not of the suspected urological conditions alone.

The following case will better illustrate:

Case 1. Mr. W. B. M., white, age

25; single, was referred to me by an out-of-town physician with the following history:

Three years ago the patient contracted a case of gonorrhoea which lasted three months, but which was followed about a year later by "another case" which resisted treatment for about six months, since which time he has seen no evidences of any venereal disease whatsoever. During the last six or eight months hehas been subject to repeated attacks of pain, especially marked in his right hypochondrium. and which radiate along his groin and into his testicle. These attacks come on more or less spasmodically and suddenly, but on close questioning he admits there is more or less of a dull pain present continuously in this situation. The patient appears to be very nervous and has lost weight, and seems very much worried over his coudition.

A diagnosis of stone in the right ureter had been made and the patient has been taking only palliative treatment, hoping that the stone would pass without any surgical interference. He was brought to me by his physician who was in haste to return home, sent to the infirmary for immediate cystoscopic examination, a preliminary routine examination waived and a cystoscopy attempted, without success. The patient had a strictured urethra which prevented the passage of the instrument.

A routine examination was later given the patient which revealed a stricture of 16 F size, and markedly distended and tender seminal vesicle on the right side. Under the treatment for these conditions he improved very rapidly and when a cystoscopic and Xray examination was finally made no evidences of stone could be found. Since then he has continued to improve and the spasmodic attacks of

pain have disappeared. Just a case of endeavoring to cystoscope your patient first and obtaining his history, etc., afterwards.

Case No. 2. Miss C. A. S.; age 32; white, was referred to me with the following history:

No serious illness in her life and had enjoyed very good health up until two years ago when she was operated on for acute attack of appendicitis. Following the operation it was necessary to catheterize her bladder, and she dates her present trouble from that date. The catheterization gave her quite considerable pain she declares, and was followed by an almost constant desire to urinate, which lasted for some days.

At intervals since this time she has been annoved with a return of this irritation and has had quite a "weak bladder" since the date of her operation. In her last (this) attack which commenced three months ago, she for the first time noticed that the urine passed was quite bloody in color. She called in her physician during this time and he prescribed some medicine to be taken internally, which for the time being relieved her and the bloody character of the urine disappeared for about ten days, when it suddenly reappeared more profuse than before, and accompanied by the passage of a small amount of pure blood after the passage of urine. She was now and for sometime to come treated for a hemorrhagic cystitis with irrigations and instillations, etc. This line of treatment though seemed only to aggravate the case and finally was given up and all treatment of a local nature stopped and internal treatment for an idiopathic hematuria substituted.

This was the state of affairs when the patient was referred for a Urological diagnosis. A cystoscopic examination revealed a large papilloma of the bladder.

THE FUNCTIONAL CAPACITY OR EFFICIENCY OF THE KIDNEYS.

*By Clyde F Ross. M. D., Anderson, S. C.

Y FUNCTIONAL capacity is understood the ability of a given organ to perform its excretory The functional capacity of function. an organ is an index to its health from a physiological point of view. An organ may be to a certain extent diseased and yet able to perform its function satisfactorily. The functional capacity or efficiency of an organ may or may not be proportionate to the anatomical lesions. It is important to know what lesions are present in a kidney, and still more so to know the amount of functional capacity left in the diseased kidney as well as in the organ of the opposite side. It is said that a person can live with a third of the total amount of functionating renal tissue normally present in both kidneys, but if there is a smaller amount present the person will die.

In surgical affections the comparison of the functional state of one kidney with that of the other is of paramount importance. The removal of one kidney rendered useless by disease is not dangerous when the other kidney is normal; but if both kidneys are badly diseased, an operation is contraindicated. By a nephrectomy we remove diseased kidney tissue so that this kidney is relieved of the reflex and toxic influences that this organ has had upon it, consequently its function improves and shows itself adequate to the needs of the individual.

There are a great variety of tests

^{*}Read before the Anderson County Medical Society, November 3, 1915.

more or less in vogue for determining the functional efficiency of the kidnevs, such as: Cryoscopy, Electric Conductivity, Chlorid Excretion, Methylene Blue Test, Phloridzin Test, and a number of others, either depending for their merits on the excretory or retentive capacity of the kidneys; but by far the most valuable and dependable test, and the one with which I have had the most experience is the Phenol-Sulphone-Phthalein test. This test was introduced by Rowntree and Geraghty of Johns Hopkins several years ago. It is sold by several chemical houses, put up in ampules, each cc. of the solution containing 6Mg. of phthalein. This test depends upon the excretory. capacity of the kidneys for its merit.

No test is absolute or infallible, and repeated tests are often necessary along with a careful physical examination, qualitative and quantitative urinalysis, and a minute study of the clinical symptoms.

In trying out the phthalein test it is found that there is a definite relation exisiting between the amount of dye execreted and the amount of normal kidney tissue present, and that its excretion goes hand in hand with the elimination of the normal products of metabolism.

The phthalein test is of immense value from a diagnostic and prognostic standpoint in nephritis, inasmuch as it reveals the degree of functional derangement, whether of the acute or chronic variety. In severe chronic nephritis the output of phthalein is uniformly low, it steadily decreases up to the onset of uremia and is nearly or wholly suppressed for a day or two to amonth before death. In cardio-renal cases the test may prove of value in determining to what degree renal insufficiency is responsible for the clinical picture presented. The test is not only of value in diagnosing uremia

from other conditions simulating it, but has also successfully indicated impending uremia when no clinical evidence of its existence was present.

In revealing the true condition of the kidneys in urinary obstruction from prostatic hypertrophy, stricture of the urethra, etc., a study of the renal function is of preeminent importance, since impairment of the kidneys kill more patients after operations of this kind than any other organic defect.

In tuberculosis of both kidneys, it is not always possible to tell from the quantity of pus discharged from each kidney which is the most diseased. A functional estimation will quickly and accurately give information regarding which is the better kidney and indicate accurately the amount of disease in each kidney. It is also of great value in differentiating pyelitis from pyelo-nephritis, as in pyelitis the function is but little decreased, while in pyelo-nephritis it may be seriously interferred with.

The recognition of the infantile kidney is absolutely impossible without the employment of the functional test, the urine excreted by these kidneys is small in amount, perfectly normal, and can only be suspected when functional tests are made.

The greatest value of this test lies in the fact that it requires no great equipment to perform it and no great training; can be done by any general practitioner, if one only wants to ascertain the total function or the function of both kidneys; but in the case of the surgeon who wants a separate renal test made, it requires a greater equipment and training.

The test as performed by the general practitioner to ascertain the function of the kidneys in nephritis, eclampsia, cardio-renal diseases and in impending uremia is made as follows:

the patient drinks two or three glasses of water, twenty to thirty minutes before one cc. (accurately measured) of a solution containing 6Mg. of phthalein is injected subcutaneously or intra-muscularly. The time of giving the injection is noted. The urine is passed voluntarily or drawn by a catheter into a vessel containing a quantity of the 25 per cent solution of Sodium Hydroxide, every five minutes until the distinctive color of the dye is seen, the color is a pale pink or purple, depending upon the amount excreted. Noting the time of the appearance of the dye, the patient voids or is catheterized at the end of the hour, and again at the end of the second hour, and the specimens saved for a quantative analysis. In normal cases the dye should appear in the urine in about five or ten minutes, and the amount excreted during the first hour is from 40 to 60 per cent, and during the second hour from 20 to 25 per cent. The amount of dye excreted is determined by rendering the urine alkaline by the addition of Sodium Hydroxide, and adding to both, the first hour's and the second hour's specimen, enough distilled water to make 1000 cc. A small quantity of each is then filtered, and a comparison made with some standard colorimeter, such as the Dunnings.

When one desires a separate renal functional test made the technique is as follows: Both ureters are catheterized by No. 6 or 7 flute end catheters, when possible; if only one can be catheterized, the urine from the other is withdrawn by a catheter in the bladder. After the urinary flow is well established from both kidneys, one cc. of the phthalein solution is injected intravenously. The time of the injection is noted. The catheters from each kidney drains in a test tube

containing a few drops of 25 per cent solution of Sodium Hydroxide, and the time of the first appearance of the dye in the test tube is also noted. which is from one and a half to six minutes, the average in normal cases being about three minutes. The quantity of urine excreted by each kidney for the first fifteen minutes after the appearance of the dye is saved, their being labelled "Right" and "Left", according to the kidney from which it came. The quantity of dye excreted by each kidney is estimated as was done for the total function. Both kidneys in health should excrete about 30 per cent of the dye in fifteen minutes, or each kidney about 15 per cent. If the healthy kidney excretes more than 15 per cent it has already taken up the burden of the diseased kidney.

One source of error in making the separate test is the leakage of urine around the ureteral catheter. This can be avoided by passing the catheter (No. 6 or 7 flute end), well up into the pelvis of the kidney and then withdrawing it until the urine passes freely.

Whether or not the passage of the ureteral catheter has any depressing effect upon the function of the kidney, there seems to be some difference of opinion.

In making the separate functional tests of the kidneys the phthalein is injected intravenously because it is desirable to reduce the length of time required for the test and a much greater quantity of the dye is excreted in the same time after intra-venous injection.

PUERPERAL SEPTICAEMIA.

*By A. W. Browning, M. D., Elloree, S. C.

THIS disease is one of the most important with which we as general practitioners have to deal. When a mother after patiently awaiting the time, and enduring the ordeal, or as "Holy Writ" put it, the travail of bringing into the world a human being, the climax of God's creative genius, about which are wrapped her very heart cords, and justly so, and on which are centered the joy and expectations of parents and loved ones, in which may be possibilities that can only be circumscribed by human limitations and the passing of time. Λ new-born babe in the arms of mother, a picture of innocence and beauty, the theme of poets and composers, and the subject for painters and sculptors of all ages. Surrounded by such a scene with the sentinel, the pulse and temperature for one, two, or five days, echoing the glad news, all is well; suddenly the scene is changed, the alarm is sounded, the enemy is attacking our main fort, the mother, then the physician, as the commanding officer, confronts a grave crisis, from which if all goes well he may emerge safely, if not, the results may prove most embarassing, indeed very disastrous, for there are always those, and I regret to say often brother physicians, who are ready to intimate, if not openly, to place the responsibility upon the attending physician whether deserved or not.

Puerperal Septicaemia, termed variously by different investigators and writers, "Puerperal Fever," vague and misleading because it mainly refers to the idea which was urged by

Fordyce Barker of the essentiality of the affection, and does not consider the aetiologital factors concerned, emphasizing the febrile phenomena, and evading the infectious nature. Puerperal Sepsis or Septicaemia, terms often used synonymously, are also unsatisfactory, as they only refer to the severer type in which the condition may manifest itself. Thus the term Puerperal infection, is becoming more generally used, as under it may be included all of the various focal affections and blood conditions which puerperal morbidity may assume. According to references in the works of Hyppocrates, Galen, and other old writers, Puerperal infections have occurred as long as children have been born. Regarded by the ancients as the result of the retention of the lochia. later as a metritis, then a milk metastasis, from then until Semmelweiss revealed its identity with wound infection, and Lister discovered antisepsis, various theories as to its nature and origin were suggested. It was not, however, until the middle of the nineteenth century that Oliver Wendell Holmes first definitely advanced the prinicpal causative agencies (the germ theory), and "the contagiousness of the Puerperal Fever," with which advancement, the position of the physician and his assistants, was made one of very much greater importance, indeed of grave responsibilities. actiology of Puerperal infection is principally the streptococcus, demonstrated by Pasteur in 1880, the staphylococcus aureus, occasionally both combined, gonococcus, the bacillus colicommunis, bacillus dyphtheriae, the gas bacillus, the bacillus typhosus, and other bacilli. We may also have a condition known as Sapraemia. caused by the absorption of toxines in the generative tract produced by putrefactive organisms, which do not

^{*}Read before the Second District Medical Association, Bamberg, S. C., July 15, 1915.

invade the tissues deeply nor enter the blood current. The pathological lesion most commonly found is an inflammation of the endometrium, septic or putrid, depending whether it has resulted from the pyogenic or putrefactive organisms, parametritis, in which the infection passes through the lymphatics to the surrounding tissue. There are, however, various other lesions that may obtain, viz: ulcer of vulva or vagina, vaginitis, salpingitis, peritonitis, pyaemia, phlegmasia albadolens, etc.

There are some instances it is believed in which the infection occurred from pathogenic micro-organisms lying in the vagina and being carried up unavoidably by the examining finger, and in some cases that the organisms were in utero, and in others that infection was due to copulation during labor.

Symptoms.

The most prominent symptom is fever appearing from the third to fifth: day, increase in pulse rate out of propotion to fever, chill or chilly sensation absent, however, in some cases, pain and tenderness in pelvis, and tympany not constant but usually present, generally headache, disturbed involution, soft, flabby uterus, lessened quantity of lochia, especially during first day or so, quite constant but marked foul odor, except in cases of retained debris, is not always present, in fact in most cases of truly septic infection, the lochia seems practically normal in appearance and odor. In grave cases when infected with virulent streptococci, what I would term true Puerperal Septicaemia, in contradistinction to the milder infections, we have severe chill, high fever, rapid pulse, intense pain at first in the lower right portion, but gradually extending over the entire abdomen, marked tympany, the patient rapidly sinking and usually dying in two to ten days. Inputrid or sapraemic conditions we have, as a rule, the chill, fever, tenderness and other symptoms, but not of as grave a character, and the lochial discharge is usually abundant and very foul smelling. Infection may extend from the uterus to the fallopian tubes, producing the usual symptoms of salpingitis. Other possibilities of infection are Pyaemia, the symptoms depending upon the organs or the parts affected.

In diagnosing puerperal infection, a rise of temperature on third to fifth day to 1001/2 degrees should make us at once suspicious, the old theory of milk fever having been dissipated, as we now know that the normal puerperium should be afebrile, we should at once eliminate emotional causes in which the temperature will soon disappear, intestinal auro-intoxication. breast inflammations, malaria, and typhoid fever should be eliminated as soon as possible by blood examination and Widal's test. Acute miliary tuberculosis should also be remembered. and other possible complications. A few cases under my observation will suffice to illustrate. Third night severe chill, rapid rise of temperature to 105, considerable tympany in thirtysix hours, spleen enormously enlarged filling two-thirds of the entire abdominal cavity and very tender, the spleen I afterwards learned was greatly enlarged some fifteen years previous, uterus well contracted, apparently no metritis, parametritis or peritonitis.

Fifth day chill, temperature 104, pain right iliac fossa, gradual improvement, four days later return of same symptoms, this condition repeated itself three times, patient carried to hospital, right ovary full of pus, removed uterus apparently perfectly normal.

Treatment.

Puerperal Infection must be regarded as a wound infection caused by the introduction of pathogenic organisms into the generative tract either before, during, or immediately after labor, "it is a contact infection," and the saying of Emmet "many a woman's death warrant is carried under the nails of her surgeon," bears equal import to the obstetrician, the nail brush thus deserves a high position as a prophylactic in the septic infection along with the very strictest aseptic and antiseptic precautions with which we are all fully aware, I, therefore, take this opportunity not to tell you how but to urge you with all the emphasis at my command to be most careful, to exercise at all times and under all circumstances the very best, the most scrupulous and painstaking aseptic and antiseptic precautions possible. Clean your patient, clean your hands, sterilize your instruments, examine your patient as little as possible and when there is any danger of carrying infections as when treating diphtheria or infected wounds, use sterile gloves. In fact the use of the glove at all times is to be urged, you will be more than repaid for the little extra trouble and expense, in the moral effect and the consciousness of knowing that you exercised all precaution possible, keep the perineum covered all the time with antiseptic towels against possible air infection. The idea I wish to impress is that we should at all times keep our defensive armor in the best of condittion that we may truthfully say it was not our fault should the enemy overpower us. Watch your patient before labor, give instructions as to hygiene, diet, exercise, etc., so that the resistive powers may be properly maintained.

For the Attack.—Calomel and salts, strychnine, whiskey, camphor oil in-

jections, cracked ice, and champagne keep bowels acting, supposed diarrhoea should not be checked, ergot or ergotole 20 to 30 drops every four hours, an ice cap over uterine site to produce proper uterine contractions. Nourish as freely as patient can assimilate, giving broths, eggs, milk, beef juice, raw oysters, and meat if possible and other appropriate diet. I believe it well at first to give quinine and urea grains, three bypo every four to six hours for a few days, subcutaneoous injections of normal salt. flushing the colon with decinormal salt solution. Anti-streptococci serum advocated by some, to me, is of doubtful service but may be tried, I used same in two cases, giving twenty to forty CC every two to four hours for about 400 CC, in one case without apparent benefit, and in the other doubtful. Crede's ointment, 15 to 30 grains, rubbed into the thigh or other surface of skin once or twice per day has given results to some. The fixation abscess advocated by Forchier producing an abscess, by injecting under the skin, turpentine, if no pus forms the prognosis is hopeless, if it forms and is allowed to increase the condition changes for the better according to his statement. As to the local treatment authorities differ, but are now inclined to conservatism, the weight of evidence tending to the conclusion that active intra-uterine treatment of streptococci infections does harm than good. In the ordinary forms the use of the ice bag, purgation, ergot and other treatment suggested hot carbolized or bichloride and douches two or three times a day carefully done usually suffices. symptoms denote severe infection the digital examination and removal of debris and careful irrigation of cavity with, I prefer 50 per cent solution of alcohol, one to two quarts at a time,

if no benefit is shown may repeat in twelve hours but should improvement not follow, little benefit is likely to accompany their continuation. If beneficial, however, they may be repeated from time to time. If the parametrium is involved, intra-uterine injection should not be used, but vaginal may be employed. Packing the uterus with gauze soaked in sterile solution of ichthyol and glycerine 50 per cent solution once a day, I believe of service if carefully done, tincture of idodine is about as good.

The use of the curette is very dangerous, and unless in saperaemic conditions with large amounts of putrefying matter, which can not well be removed digitally, should not be used, if then very lightly. The use of 606 is advocated by some in this as other infectious diseases, and might be given a trial in desperate cases.

THE USE OF EMETINE HYDRO-CHLORIDE AS AN ABORTIVE IN THE TREATMENT OF TYPHOID FEVER.

*By Olin D. Busbee, M. D., Springfield, S. C.

TYPHOID FEVER is an acute infectious disease due to Typhoid Bacillus. The blood of man serves as a culture medium for their growth, therefore, granting that this is true, why then is it not possible to introduce into the circulation a drug that is known to kill them in an artificial culture medium? I have used Emetine Hydrochloride in twelve cases of Typhoid Fever having obtained a positive Widal reaction in

seven cases, and only one out of the twelve had been vaccinated, she had taken the vaccine six months prior to her illness.

The way in which I am using this drug is as follows:

When I have diagnosed my case to be Typhoid Fever I administer a half grain of Emetine Hydrochloride and repeat the dose every seven hours until the temperature reaches 99 degrees F.

(The dose in children is proportioned as to age and gives as satisfactory results.)

When the temperature reaches 99 degrees I give one-fourth grain every seven hours until temperature has gone. I have obtained the following results in five cases that at the end of the fourth day the temperature had reached normal and did not persist and the patient speedily recovered.

In each of these five cases a positive Widal was obtained on the eighth day and treatment started immediately. In the remaining seven cases a diagnosis was not reached until the third week of the disease, but as soon as the diagnosis was made the treatment as outlined above was given.

One case out of the seven had Hemorrhage, but recovered—while in this case I couldn't say that the drug had any effect at all, but the remaining six were clear of fever in nine days.

The diet which I used is the ordinary liquid diet as usually given to Typhoid patients—principally milk. I am of the opinion that if the diagnosis can be established in the first two weeks of the disease that Emetine Hydrochloride will positively cure Typhoid Fever.

^{*}Read before the Orangeburg County Medical Society, September 21, 1915.

CORRESPONDENCE

Charleston, S. C., Nov. 17, 1915. Dr. E. A. Hines, Editor Journal of the S. C. Med. Association:

Anderson, S. C.

Dear Doctor Hines:

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We would like to get before the profession of the State as supplicants for files of medical journals which anyone may have and may be willing to donate to the College Library. We are trying to fill out our files of such as The Charleston Medical Journal, The Journal of the South Carolina Medical Association, The American Journal of the Medical Sciences, The Lancet, The British Medical Journal, Annals of Surgery, Gynecology and Obstetrics, The American Journal of Obstetrics, in fact we would be glad to receive any file of medical journals, and it occurred to me that you might do us the favor of calling our need to the attention of the profession, and asking that any who may desire to do so communicate with me.

If you will do this we will be greatly obliged.

Very truly yours, Kenneth M. Lynch, Chairman, Library Committee.

Philadelphia, Pa., Nov. 24, 1915. Dr. G. A. Neuffer,

Abbeville, S. C.

Dear Doctor:

I am inclosing a copy of a Resolution which was enthusiastically passed by the Southern Medical Association at its meeting in Dallas, Tex., November 8-11, 1915. The resolution explains itself.

Would you be kind enough to mail a copy of it to every County and other Medical Society in your State for adoption, and ask those Societies in localities in which members of Congress or the Senate reside to have this subject specially brought to their attention by individuals or committees who may have personal acquaintance with said legislators? Congress meets very shortly; there is but little time left, and any action on your part should be prompt. In those instances where the Congressmen have left home, the appeal should be made by mail. Will you also please ask The Journal of your Society to make editorial comment on the matter in their next issue?

The measure to be proposed this winter looking to military preparedness makes no attempt to provide the soldiery with sufficient medical attendance in a crisis, or, in peace, for that matter. No class of men is better fitted to pass upon the number of medical officers necessary to treat and keep in health a given number of men as the doctors of the country are. In these days of preventive medicine thorough knowledge of the etiology of disease and the precise methods of care of the sick and wounded, armies have to be entrusted to specially trained medical men; otherwise casualties from avoidable diseases and lack of the proper treatment of the injured become very great. In the end, the State is apt to suffer unduly in the matter of pensions, and the young and vigorous manhood of our country to be sacrificed.

Hoping you will put your shoulder to the wheel, and that your efforts will bring good results, I am,

Sincerely yours,

W. L. Rodman.

Copy of Resolutions Passed by the Southern Medical Association, at Dallas, Tex., Nov. 8-11, 1915

Whereas, the President and the Honorable Secretary of War have announced in the public press that a scheme for the reorganization of the Army will be presented to Congress at its coming session, which will materially increase the military establishment, and

Whereas, we recall the indignant protests and criticisms of the Nation at the failure to provide adequately for the sick and wounded at the beginning of the Civil War and the Spanish-American War, and

Whereas, it is known that this failure was due to the lack of a sufficient number of medical officers in the regular army and a means for increasing the medical establishment at the outbreak of war, and

Whereas, in spite of the lessons of the Spanish-American War which were fresh in mind in the reorganization of the Army in 1901, the Medical Department was not properly increased and no provision was made for its expansion in time of emergency, and Whereas, to correct the defects in the 1901 legislation, subsequent legislation was necessary in which the medical profession of the United States was called on to assist; therefore, be it,

Resolved, by the Southern Medical Association, in session at Dallas, Tex., that the Secretary of War be petitioned to make adequate provision in the reorganization of the Army about to be presented to Congress for a sufficient number of medical officers for the regular establishment, which provision should aggregate a proportion of medical officers of, at least, seventy-five hundredths of one per cent of the enlisted strength of the Army, or such number as the Surgeon-General of the Army may deem necessary, and, be in further

Resolved, that the Secretary be petitioned to make provision in this reorganization for the expansion of the Medical Department at the beginning of war, by calling into service in the Medical Reserve Corps physicians from civil life who have been instructed in their special duties as medical officers in our summer camps, and otherwise as the War Department may see fit.

CURRENT LITERATURE

PRINCIPLES IN THE MODERN TREATMENT OF SYPHILIS.

HILE infection with syphilis does not involve as much suffermg as some of the commonest skin diseases, the layman as well as the physician gets panicky and suffers mental agony when he finds himself a victim of this disease. "Can I ever be cured?" was the pathetic appeal before the introduction of "606." With the manufacture of the latter on

a commercial scale great enthusiasm and new hope entered the spirits of the victims of this dreadful disease. One or two hyperdermic "shots" of this wonderful remedy were expected to entirely destroy the disease. An example of the spirit in which early announcements of brilliant results were received is an illustrated postal card from Germany which contained the picture of a young man and a young lady and below the following dialogue: "Will you marry me?"

"Yes, if you have had an injection of 606."

Enthusiasm gradually gave way to rationalism and the profession and the laity began to question the real efficiency of this remedy. While the real status of salvarsan treatment is as yet in doubt, there is, as Sutton fitly expressed, a host of untrained enthusiasts who fondly imagine that the possession of a "Salvarsan outfit" is all that is necessary to change them into full-fledged syphilo-therapeutists.

While syphilis of today is not so difficult to combat as was the same disease thirty years ago when a great many cases were of a malignant type, yet the disease is still serious enough not to be tampered with; skilful and careful treatment is required, and the ability to administer a successful and scientific treatment acquired only by hard work and careful observation. We really cannot see how untrained physicians, druggists and laymen (the last two in particular) can conscientiously treat a disease whose sequelae are not only liable to be disastrous to the unfortunate victims, but to their wives, their children and their children's children for generations after them.

While we have no absolute criterion as to the cure of syphilis, yet with the modern diagnostic methods and mod. ern rational treatment we are nearer to a solution of the cure-problem than we ever were before. Even before the discovery of our modern methods for diagnosis and treatment, syphilis in the hands of trained and experienced men was being cured every day. Gottheil was right when he once said, "Some of us have been at the game long enough to have seen our syphilitic patients marry and have healthy wives and flourishing families and spend years without a reminder of their old infection." Then, if we were

able to treat syphilis successfully before the discovery of the valuable modern diagnostic methods and therapeutic agents, how much more potent must we be since their introduction.

We will not go into the description of the minute details of the actiology, pathology, and histology of syphilis, but we simply mention a few facts in the new epoch that has been made in regard to the subject of syphilis; particularly since its study has been transferred from the narrow and uncertain domain of clinical medicine to the laboratory of experimental medicine. Schaudin and Hoffman, the first ones to discover the real organism, confirmed the supposition of clinicians in regard to the bacterial origin of Successful animal inoculasyphilis. tion, first carried out by Metchnikov and Roux, with spirochetae exploded the theory that animals are immune to syphilis. Wassermann adapted the Bordet and Gengou complement fixation reaction so that it might be used in the diagnosis of syphilis. Schereschewsky then succeeded in growing the spirochetae outside of the body, though not in pure culture. This was done by Noguchi who has used a similar method in obtaining pure cultures of other bacteria.

In the last few years the conception of immunity, heredity, latency and modes of transmission of syphilis have been greatly changed. The once accepted laws and teachings of Profeta and Colles-Baumes have been almost dropped from our teachings. After many experiments and scientfic investigations, far more logical conclusions in regard to immunity have been brought forward by Neisser, Finger, Landsteiner, Levaditi, Uhelnhut and Mulzer.

The same may be said of heredity of syphilis. The old conceptions of heredity were found to be erroneous,

though new ones are far from being clear; serological researches, such as Wassermann's, Noguchi's and others, have opened a wider field in the study of syphilis and have come to our aid in clearing up the diagnosis of old and latent cases which heretofore have been treated for other diseases. There are too many different theories which have been brought forward in recent years, and it would take too long to discuss them all, especially those of chemotherapy, tissue—affinity and permeability, so we will leave them and call attention to a few rules as to the principles and methods of treatment followed by us for the last fifteen years, though somewhat modified in the last five years. Prior to that we had no method, no rules, and we treated syphilis symptomatically only. We have made grave mistakes, but since then we have learned a great deal by our mistakes and we strictly adhere to the following rules as elaborated by Neisser: 1st, early beginning of treatment; 2d frequent courses of treatment of different intensity suitable to each case; 3d, general observation and treatment for not less than one year; 4th, topical treatment of the skin and of the mucous membrane; 5th, education of patient in regard to the importance of this disease.

As to the immediate treatment of syphilis, its opponents claim that general treatment should not be instituted until the positive diagnosis is made for fear of a wrong diagnosis. But diagnosis at present is greatly facilitated since we can demonstrate the spirochetae in the lesions and obtain a postive Wassermann reaction in the blood. We can make a positive diagnosis during the first few days or weeks after infection, and do not have to wait six to eight weeks or even longer for secondary manifestations. It has been fully demonstrated that in syphilis

there is a general infection before eruptive manifestations appear, and that during the first few weeks the spirochetae are invading nearly every tissue an dare causing inflammation, infiltration and ulceration. Why wait for this general infection to become established? Would we wait for a suspected case of tetanus to develop lockjaw before instituting treatment? After the spirochetae have invaded the tissues unmolested and entrenched themselves, it will be all the harder to eradicate them before they have done considerable damage. Moreover, all persons infected with this disease, and especially those who are married or engaged or contemplating matrimony, want to be ridded of it as soon as posble. As the secondaries may not show up for several months or even not at all, a great deal of time may be wasted waiting for them.

Prolonged treatment of varying intensity is advisable since it is possible for the spirochetae to remain latent in nodules and scar-tissue for a long time even when the case has received considerable treatment, while in cases improperly and insufficiently treated the spirochetae become less susceptible to mercury and arsenic and may resist our utmost efforts to eradicate them. Treatment should be kept up for at least a year, after which period the case should be watched and further treatment determined by the Wassermann reaction and clinical course. Fournier advocates a seven course of treatment, but with our modern aids in diagnosis, our new and old remedies, we can eradicate the disease in much less time. When both the blood and spinal-fluid give a negative Wassermann reaction and there has been a complete absence of clinical symptoms, we may be sufficiently sure that the disease is eradicated to cease treatment entirely. But as long as any

clinical symptoms persist or a positive Wassermann can be obtained after a provocative dose of mercury or savarsan, the patient should be warned that he may still harbor spirochetae in his body, and the same care on his part should be observed as earlier in the disease. No good results can be expected unless the patient can be educated as to the importance of following out all the rules laid down for him by the physician.

In regard to the actual treatment of syphilis, we still believe that mercury is our chief dependence, though the methods and forms in which it is used have changed. During the past few years there has been greater progress made in pharmacology than in the previous score of years. Our drugs have been investigated and valuable facts as to their real action have been brought to the light. Just as many of our old theories as to the cause and transmissability of syphilis have fallen by the wayside, so too it has been with many of our old favorite drugs on which we were wont to rely. In the meantime, the selective action of drugs, their affinities for certain tissues and their inability to enter other tissues and their varying action on the parasites as opposed to their action on the organism, these lines and others have been studied in the laboratory and many of the problems already solved. other disease more than in syphilis has this new knowledge been of value. To it we owe such new methods of treatment as the Swift and Ellis salvarsanized serum for intraspinal injection, with the various modifications thereof, such as mercurialized serum, heterogenous serum, autogenous rum, etc. Then chemotherapy has given us a whole host of new organic compounds of arsenic, and even a few of mercury.

In the midst of all these attempts to

improve the results of treating syphilis and to make it simpler and easier for the practitioner, what is the actual status of the treatment of syphilis as it is carried on today? Do the great majority of physicians get results, or are the patients treated today to return in ten, fifteen, or twenty years as tabetics and paretics just as we are receiving and treating the insufficiently treated patients of the previous generation? Will we eradicate the disease from a greater percentage of cases than did our predecessors or ourselves thirty or twenty years ago? Surely, that depends on the treatment used by the great majority of physicians and not on the treatment of a few of us. Then what treatment is used by the average physician today? We have been making inquiries among practitioners in various cities and also from the country districts and it seems clear that a majority are still depending mainly on treatment by the mouth, using the protoiodide of mercury, an aqueous solution of the bichloride of mercury with an excess of the iodide of potash, or even idodide of potash alone. How any one can expect to cure syphilis in the third stage or any other stage by means of potassium iodide alone is more than we can understand, but nevertheless that is the treatment on which many seem to rely. Some combine the mercurial or iodide or mixed treatment with one or two intravenous injections of salvarsan or several intramuscular injections of neosalvarsan, while others use the cacodylate, arsenilates or other organic arsenicals. Quite a number depend on one or the other of these arsenicals without the administration of mercury in any form. Mercury by the mouth is about as uncertain and inefficient a way of giving it as can be devised: most of the mercury is thrown out with the feces unabsorbed, and one

can never tell how much is actually entering the tissues where alone it is of value. Moreover, this method of administration deranges the intestinal tract and produces salivation much sooner than any other method. The injection of mercury compounds, either in solution in water or in suspension in oils, is undoubtedly of value, as will testify those who have used this treatment and seen as rapid a disappearance of skin-lesions as follows salvarsan itself, but many patients object to the injection being given as often as would be necessary were this method alone used. Fumigation is undoubtedly of value but has many drawbacks. A very old fashioned method of administering mercury is by inunction, and it is to their inunctions that certain well-known mineral springs owe their reputation in syphilis. Not the water but the daily rubs with blue ointment cleared up the symptoms. It has drawbacks, of course. It takes longer to give a good mercury rub than to write a prescription for one-eighth grain protoiodide of mercury; some patients complain that it keeps their underwear dirty all the time, while others are unable to come for the inunctions frequently; and the dosage is uncertain. However the fact is established that mercury can be gotten into the tissue by inunction through the skin; that it goes in in large quantities; seldom salivates; does not upset the stomach; does give results; and with ordinary care will not cause any irritation of the skin. If the skin is previously well-warmed by helio-therapy it takes only a short time to rub through a suitable amount of mercury in ointment form. The skin should not be heated beyond the point of getting the pores open, since a greater heat will cause profuse sweating, which intereres with the passage of mercury into

the skin. It is our practice to add a suitable amount of eucerine or goose grease to the official blue ointment since it facilitates absorption. the inunction the excess of ointment is rubbed off with a dry towel; this prevents soiling of the clothing to any considerable extent. A different area is chosen each time in the following order: front of thighs; front of chest; back of thighs and buttocks; upper back; abdomen and glands; both arms; lower back; then begin again with the front of thighs. In this way if the patient is receiving the rubs on alternate days the same area will be used only once in two weeks, so that there should be no irritation from the eintment. Moreover the movement in rubbing should never be against the hair, since rubbing the nair the wrong way is apt to irritate the skin. It should be remembered that where the mercury comes in contact with the hair there will be formed a black deposit which can not be rubbed in. From two to four good rubs and injections a week will give more results than can be obtained from over-large doses by the mouth. The skin, however, must be watched very carefully. Mercury applied by Morton's cataphoric electrode is a clean and splendid method and may be substituted for some of the injections or inunctions.

Now comes the arsenical question, what to use and when. That arsenic is a parasiticide is not to be doubted; nor that in the inorganic form it is too dangerous to be used in efficient doses. Sufficient time has passed since the introduction of salvarsan to give us a fair idea of their value. Most authorities agree that neosalvarsan is inferior to the original salvarsan in its spirocheticidal action. Salvarsan seems to be reaching its true level; a valuable remedy but not the "sterilisians magna" that it was expected to be.

It has proven to be effective enough to deserve use, vet not effective enough to be relied upon alone. In many of the larger hospitals and in the private practice of our best syphilologists it is now routine to give an intravenous salvarsan, then a course of several weeks or months of mercurial injections and inunctions, followed by another salvarsan and another course of mercury. This is our usual routine and we think it fully justified by our results with it. Many authorities are mixing the injections of mercury with injections of various organic arsenicals. Sodium cacodylate seems to be returning to favor again, and is being used largely, some prefer the newest European synthetics, the newer the

better. Certainly when there is an effective way of treating syphilis by means of intravenous injections, intramuscular injections and inunctions it is worse than futile to give a few inefficient tablets by the mouth. With a disease so terrible as syphilis in its effect not only on the patient himself, but on generations to come, on society as a whole, on civilization present and future, there should be no parley. It should be treated with the best we have, even if it is more trouble. Anything less is criminal.—Scientic Editorial, Kentucky Medical Journal, December 1, 1915.

M. L. Ravitch.S. A. Steinberg.

BOOK REVIEW

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BOOK REVIEW 123456 in , 123456 1234 WHAT TO EAT AND WHY.—Second Edition. What to Eat and Why. By G. Carroll Smith, M. D., of Boston, Mass. Second Edition, thoroughly revised. Octavo of 337 pages. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

***0*0*0**

This is one of the most facinating volumes we have had the pleasure of reviewing on the subject. Most of the works are too complicated for the average reader, and therefore, they rest on the shelves of the practitioner rarely opened. The question of dietetics in our Southern States, at the present time, is a burning question, owing to the investigations of Pellagra. While this particular volume does not mention Pellagra the principles of dietetics has been placed before the reader in such an attractive manner that it is really a pleasure to follow the author from beginning to end. The book has only 369 pages. The bibliography shows that the author drew largely on the best writers throughout the world. We heartily commend the volume.

OPERATIVE GYNECOLOGY.—By Harry Sturgeon Crossen, M. D., F. A. C. S., Associate in Gynecology, Washington University Medical School, and Associate Gynecologist to the Barnes Hospital. Gynecologist to St. Luke's Hospital, Missouri Baptist Sanitarium and St. Louis Mullanphy Hospital; Fellow of the American Gynecological Society and of the American Association of Obstetricians and Gynecologists. Seven Hundred and Seventy Illustrations. St. Louis: C. V. Mosby Company, 1915.

Doctor Crossen, the author of this work, is a well known surgeon and writer, and has given us a book especially rich in the technique of operative surgery of Diseases of Women. The illustrations are unusually good, and while it is impossible for a text book to record the large number of operations which are constantly being devised for displacements of the uterus, for instance, yet Doctor Crossen has covered the field quite accurately. We would call especial attention to the "Technique of Palliative Operations." The method of Percy has been cleverly portrayed, among others. The book contains 670 pages, is published on good paper, well bound, is quite a credit to the publishers and sells for \$7.50.

PRINCIPLES AND PRACTICE OF OB-STETRICS.—By Joseph B. De Lee, A. M., M. D. Professor of Obstetrics at the Northwestern University Medical Shcool. Second edition, thoroughly revised. Large octavo of 1087 pages, with 938 illustrations, 175 of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$8.00 net; Half Morocco, \$9.50 net.

This is perhaps the most exhaustive single volume work on Obstetrics ever published in this country. Only two years have elapsed since the book first appeared and yet practically every chapter discloses a revision.

The chapters on the Abderhalden pregnancy reaction, on "twilight sleep," on "dry labor," labor in old primiparae, blood pressure, and extraperitoneal Caesarian section were much enlarged. The illustrations are superb, most of them being done by Felix Eisengraber, of Munich, Germany. There are 1087 pages, thin paper, excellent binding and printing. The work is not surpassed by any single volume we know of.

THE MEDICAL CLINICS OF CHICAGO.

—Volume I, Number III (November, 1915). Octavo of 200 pages, 23 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Price per year. Paper, \$8.00. Cloth, \$12.00.

This number has an excellent article by Williamson on Treatment of Typhoid Fever at Cook County Hospital. He opposes simple milk diet and allows cereals, ice cream, jelly, certain vegetables, etc. He does not use the Brand bath and says it is losing favor. Instead uses sheet rub sprinkling cold water. In severe case ice water. Only prescribes as routine two drugs, viz: dilute hydochloric acid and urotropin. Among the contributors are Abt,

Hamburger, Preble, Tice, and Tivnew. The article by Abt on Anorexia in infants is practically good.

TEXT BOOK FOR MATERIA MEDICA FOR NURSES.—Compiled by Lavinia L. Dock, Graduate of Bellevue Training School for Nurses. Fifth Edition, Revised and Enlarged. G. P. Putnam's Sons, New York and London. The Knickerbocker Press. Price \$1.50.

This is a text book above the average in scope. The author has drawn liberally from various reliable sources and produced a commendable book for the training school.

A TEXT BOOK OF PATHOLOGY.—By Alfred Stengel, M. D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M. D., Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Sixth Edition, Reset. Octavo of 1045 pages, with 468 text illustrations, many in colors, and 15 colored plates. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This is the sixth revision of one of the best known text books on Pathology. Extensive revision has brought the work fully up to date.

A new section on Transmissible Diseases has been added. The Terata has been incorporated with a brief synoptical chapter on Teratology. The Glands of Internal Secretion and their pathology have been made the subject of a separate chapter. There is probably no more useful or popular text book on this subject extant by American authors.

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One of the striking articles in this issue is by Rahm of Zurich on War experiences and Observations in Germany and France. There is also an excellent paper on Gonorrhoea: its complications and sequelae, by Bremerman, of Chicago.

THE PHYSICIAN'S VISITING LIST.—
(Lindsay & Blakiston's). For 1916.
Sixty-fifth Year of its Publication. Philadelphia: P. Blakiston's Son & Co.
(Successors to Lindsay & Blakiston),
1012 Walnut Street. Sold by all Booksellers and Druggist. Price \$1,25.

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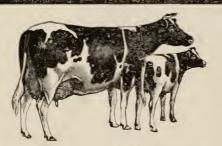
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